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ABSTRACT

This final report describes activities and achievements of Project TIE (Teams in Early Intervention), which developed, implemented, and evaluated an inservice training model to increase the competencies of team members from different disciplines as well as parents. The project was designed to assist in the implementation of Public Law 99-457 (later incorporated within the Individuals with Disabilities Education Act). The project was intended to impact early intervention services at the state level and and at the community-based early intervention program level. Project staff accomplished their goal by: (1) providing training of early intervention teams within a community; (2) developing training materials based on competencies needed by all team members; (3) developing training materials based on critical competencies needed by individual disciplines; (4) providing technical assistance and support; (5) disseminating effectiveness data and training materials; and (6) securing funding for Project TIE Outreach. The project developed four discipline-specific training modules, for health care professionals, occupational and physical therapists, speech language pathologists, and parents. Three model demonstration sites received assessments of their teams' procedures and training needs. Additional dissemination activities resulted in nearly 110 training activities throughout the U.S. Appendices include a discussion of the performance competence model, a description of the development of "community maps" showing various agency interactions at the Santa Fe (New Mexico) site, and two competency exams used in the program. (Contains 20 references.) (DB)

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Project TIE
(Teams in Early Intervention)

Inservice Training Program for Related Services Personnel

October 1, 1990 - September 30, 1993

Final Report

Early Education Program for Children with Disabilities
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II. Project TIE
ABSTRACT

Project TIE, which stands for "Teams in Early Intervention," characterized the spirit of P.L. 99-457: teams that include family members and professionals from multiple disciplines were central to this model. Project TIE developed, implemented, and evaluated an inservice training model that increased the competencies of team members from several different disciplines (including parents) on early intervention teams. The training was designed to impact early intervention services at two levels: statewide and at community based early intervention programs. Project staff accomplished their goal by:

- providing training of early intervention teams within a community;
- developing training materials based on competencies needed by all members of the team, and providing this training to teams;
- developing training materials based on critical competencies needed by individual disciplines, and providing discipline specific training;
- providing technical assistance and support to early intervention programs related to successful implementation of P.L. 99-457;
- disseminating effectiveness data and training materials to the field; and,
- securing funding for Project TIE Outreach.

TIE staff developed four discipline-specific training modules (for health care professionals, OTs/PTs, SLPs, and parents) that were used by staff and consultants in two statewide three-day inservice training events. Objectives were designed so that at the conclusion of the training, participants would be able to:

- determine what supports and interferes with a child's performance;
- apply a common conceptual framework for early intervention;
- explore how each profession addresses early intervention practices;
- know what other team members expect from them; and,
- improve information sharing among team members.

Pre/post test results showed significant improvements in participants' scores.

Three model demonstration sites received assessments of their teams' processes and the services they were providing to their families. Training that team members and TIE staff identified as needed by the assessments was provided. Two sites were assessed and trained by TIE staff. Then, the team leader at one of the model sites replicated the assessment/training model at its rural satellite program. Extensive evaluation of the model involved the use of a variety of tools that examined team effectiveness, program strengths and barriers related to implementing family centered services, community maps and the assessment of team and discipline specific competencies. Additional dissemination activities by Project TIE staff resulted in nearly 110 training activities throughout the U.S.

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IV. Goals & Objectives of Project TIE

Goal: Develop and implement an inservice training model that increases the competencies of individual disciplines and early intervention teams (including family members) in order to promote high quality family-centered services.

Obj. 1 Articulate Project TIE components in response to identified local and national needs.

Obj. 2 Train community teams in:

a) methods of team functioning and cross training of team members; and,

b) methods to identify and provide and/or secure needed services.

Obj. 3 Train individual disciplines in competencies needed in early intervention to include:

a) assessment;

b) programming/intervention;

c) working with other disciplines;

d) family dynamics; and,

e) multicultural issues.

Obj. 4 Support/assist agencies in methods of effectively implementing P.L. 99-457 within the framework of the agency's and community's unique needs (strengths and barriers).

Obj. 5 Evaluate Project TIE components and efforts of training site through:

a) community mapping and ethnographic procedures pre/post training and assistance to training;

b) pre/post assessments and direct observation of early intervention team and individual members; and,

c) pre/post measures of knowledge and skills of participants in discipline specific training.

Obj. 6 Disseminate the findings, methods and materials of Project TIE locally and nationally.

Obj. 7 Determine the need for, and viability of, Project TIE replication.

Note: Objectives have been renumbered since the original application, as one objective was incorporated into two others after the first year.

V. Conceptual Framework for Project TIE

Introduction

P.L. 99-457, passed in 1986 and strengthened by amendments in 1991 (P.L. 102-119), demonstrates a clear intent for families to be closely involved in the critical decisions that will affect the nature of services they and their children receive. The legislation also emphasizes the need for various professional disciplines to work together to provide integrated and coordinated services. Careful review of the regulations and amendments reveals that teamwork is paramount by requiring that: a) parents be part of the team; b) professionals from many disciplines constitute "qualified personnel;" c) professionals work with one another and the family on behalf of the child; d) agencies collaborate in order to ease families' access to service systems in both rural and urban areas, as well as to ensure smooth transitions. What we once considered to be best practice is now the law.

Project TIE (Teams in Early Intervention) was developed as an inservice training model to facilitate the implementation of both the letter and spirit of P.L. 99-457 by addressing a number of critical issues:

1. the need for high quality family centered services that reflect cultural competence;
2. the need for increased numbers of qualified professionals from specialized disciplines;
3. the need for these professionals and family members to communicate effectively in order to work together on behalf of young children;
4. the need for effective inservice training that is responsive to a sparsely populated state, various disciplines, and to culturally diverse families;

Issue 1. The Need for High Quality Family Centered Services

There is a large body of literature to support the premise that the most effective early intervention programs are likely to be those that apply a family

systems or ecological approach (Bailey & Simeonsson, 1988; Bronfenbrenner, 1990; Dunst, Trivette, & Deal, A., 1988; Turnbull & Turnbull, 1990; Zigler & Berman, 1983). This approach recognizes the primacy of the family and advances the importance of providing intervention in the context of the family. Family centered principles require that professionals: 1) recognize that the family is the constant in the child's life and is the most important source of information about the child, 2) collaborate with families, and 3) share, on an ongoing basis, unbiased, complete information in an appropriate and supportive manner (P. Arango, October, 1992, personal communication).

In discussing family diversity and its implications for policy and practice, Hanson and Lynch (1992) suggest that our efforts to train, recruit and hire early intervention personnel should reflect the range of service needs that accompany this tremendous diversity of families. In a state such as New Mexico, as well as in many other states, family diversity implies cultural diversity because of the large number of cultures represented in the state. Therefore, personnel must reflect cultural competence in their services to families. The health care profession defines cultural competence as the ability to provide

> care that involves an awareness of and respect for cultural differences, values and belief systems, and incorporates this awareness into interactions with the family members, develops a treatment plan that meets family needs in the local community as much as possible, and validates expectations of children and families that their needs and views are an important part of the process (Olguin & Paul, 1991, p. iii).

Issue 2. The Need for Qualified Personnel

A potential barrier to successful implementation of a full array of services for infants, toddlers and their families under Part H is the availability of qualified personnel. Numerous disciplines are identified as necessary and essential to the delivery of high quality services. Yet, many of these individuals are in short supply; and of those available, not all have experience in dealing with very young children and their families (Olguin & Paul, 1991). This critical shortage in personnel has been

well documented (Bruder, Klosowski & Daguio, 1989; Meisels, Harbin, Modigliani & Olsen, 1988). Meisels et al. reported that 100% of the states are experiencing shortages of therapists and over 68% lack sufficient training programs.

Project TIE conducted a survey to look at recruitment and retention issues of all SLPs, OTs, and PTs in New Mexico. The survey revealed that geographical location/benefits of a position was the second most important factor in their decisions to accept and stay in a particular job (Harrington, Beam & Laurel, 1992). While this suggests that there will often be areas where specialized services are scarce, it underscores the need to be sure that those professionals who are available will be qualified and feel competent to work with young children and families. Peters (1987) found that a significant factor in employee attraction and retention is job satisfaction, which is often reflected in employees' statements regarding their feelings of competence on the job. The Project TIE findings emphasize the need to build responsive networks of service for regions of sparsely populated states.

Issue 3. The need for professionals and family members to communicate effectively.

The regulations for Part H require "integrated and coordinated services" and call for personnel development plans to "provide for preservice and inservice training to be conducted on an interdisciplinary basis" (303.17, 303.360). Partnerships with families are emphasized, and parents must be closely involved in planning the services for their young children through the Individualized Family Service Plan (IFSP). In fact, in order to respond to the spirit of the law, early intervention teams should include parents as team members. Stile, Render & Earhard (1989) found that professionals from multiple disciplines in New Mexico believe that early interventionists should utilize a team approach. In order to be an effective team, early intervention personnel must be trained on team operations (Gallagher, 1988), and teams that work together should receive inservice training together (Bailey, 1989b).

The implied emphasis on teamwork in the law was immediately apparent to many in the early intervention field, and a number of projects were undertaken to train early intervention staff to work as members of interdisciplinary and transdisciplinary teams that included parents as members of these teams. These projects focused on how team members, including the parents, could learn to share their content areas and information about a child with one another, so that they could examine the strengths and needs of the whole child from an ecological perspective. What many projects focused on was how the content areas of personnel with different expertise could be shared and utilized on a team. This is an important step, and, in fact, constitutes one of the components of the TIE model.

What project staff often did not see was the need for training of personnel in team process skills. There may have been an underlying assumption that team members know how to work on a team--that they have the necessary communication, decision-making, conflict resolution and problem solving skills required to be effective team members. While there has been much emphasis on "family centered" programs, there also seems to have been an underlying assumption that this phrase has the same meaning for everyone, instead of meaning different things to different teams or to different members of the same team. Therefore, members of teams often begin at divergent points on the continuum of being "family centered", as well as having different levels of skills in communicating effectively with families and other professionals on a team.

The problems of working together can be intensified because persons in each of the disciplines who work with young children with disabilities and their families have been trained in their own discipline's formal educational sequence. Persons from different disciplines do not approach children and families with the same knowledge base, values, assumptions and goals. Many of the ideas viewed as best practice, such as the transdisciplinary team approach, may challenge what has been

considered best practice in these disciplines. Learning to listen to and learn from one another, given these differences, is not easy (Winton, 1990).

In order to facilitate effective communication among team members, Project TIE staff developed the Performance Competence Model. The purpose of this model is to provide families and professionals with a new way to ask questions about a child's development and to determine what facilitates and what inhibits a child's performance. Philosophically, the model promotes a holistic view of the child within the context of the child's personal characteristics, preferences, environments, family and culture. It provides a structure for team members from a variety of disciplines to understand and interpret key issues and plan appropriate supports and interventions. By incorporating the Performance Competence Model into the TIE training, project staff provided participants from all disciplines a common framework from which to share information. (A discussion of the model is appended.)

Issue 4. The Need for Responsive and Effective Inservice Training

Clearly, inservice training is an important vehicle to begin to meet the needs for qualified personnel. Gallagher (1988) emphasizes the importance of inservice training:

> Many people who are currently providing services for young children need additional preparation on team operations, on the latest measures of assessment, or on work with families; such upgrading of talent cannot be ignored in favor of preprofessional training. A wholesome combination of both efforts needs to be embarked upon (p. 245).

Inservice training can play a vital role in increasing the numbers of qualified professionals and in promoting their competence. However, research shows that inservice training is often ineffective. Guskey (1986) found that much inservice training is not conducted in accordance with best practice, while Bailey (1989a) reported that the empirical research on inservice training suggests that much of the

training is not conducted in accordance with best practice and that long-term changes in professional behavior are rare.

Winton (1990) states: "The demands for inservice training have created a crisis mentality as states attempt to respond to the legislative mandate that personnel working in early intervention be appropriately and adequately prepared and trained" (p. 51). We must take care that these demands do not prevent us from developing adequate effective inservice training models. Our models should be responsive to adult learning styles (Bertcher, 1989, McLean & Bruder, 1992), designed for small groups of trainees, and include long-term follow-up as trainees implement newly learned skills within their programs (Bruder & Nikitas, 1992).

Inservice training options need to address other issues such as: cultural diversity, sparsely populated areas, great distances between cities, limited resources, and the need to train a wide variety of individuals. Therefore, the models that are developed need to be flexible and respond to a variety of needs.

VI. Description of the TIE Training Model

During model development, Project TIE staff developed, implemented and evaluated an inservice training model that was designed to impact early intervention services at two levels: statewide and at locally based early intervention programs.

Statewide Training Model

TIE staff developed four discipline-specific training modules (for health care professionals, OTs/PTs, SLPs, and parents) that were used by staff and consultants in two statewide three-day inservice training events. One workshop occurred in March, 1992, and the other occurred in June, 1993. A total of 111 persons participated in the training: 20 health care professionals, 33 OTs/PTs, 34 SLPs, and 24 parents. (Portions of the modules also were used during the three-year training period at training events throughout the United States, as well as in Denmark and England. Total number of persons trained was 7,728. See Table A for a description of training events and locations.)

The objectives were designed so that at the conclusion of the training, participants would be able to:

1. determine what supports and interferes with a child's performance;
2. develop shared perspectives in viewing children's performance;
3. apply a common conceptual framework for early intervention (see Performance Competence Model and explanation in Appendix A);
4. explore how each profession addresses early intervention team practices;
5. know what other team members expect from them;
6. improve information sharing among team members.

Each workshop was divided into two major components:

1. **Pathways to Teaming:** In this component, each discipline specific group received training by one member from each of the other three expert groups. For example, the group of speech/language pathologists received training by a parent, an occupational therapist, and a health care professional. The purposes of this segment of the training were to provide an orientation to each expert group about its role on the team, to review the information shared about that discipline with other groups, and to provide some specific practical information about each area of expertise that had useful, discrete application to other team members. In addition, group participants were given the opportunity to develop questions about each discipline specific area that guided, to some degree, presentation content.

2. **A Framework for Early Intervention:** Following the Pathways to Teaming presentations, which occurred simultaneously, each discipline group participated in presentations facilitated by a member of their own expert group. The purpose of this portion of the module was to apply the Performance-Competence Model that was developed by members of the TIE staff to each discipline area, as well as to provide state-of-the-art information about specific aspects of working with infants and toddlers as part of an early intervention team.

Group activities were an integral part of the training. "Mini" interdisciplinary teams were created to participate in:

1. **playing the Performance Competence Board Game**. The game was designed by members of the TIE staff to give participants an opportunity to apply the Performance Competence Model to real life situations. The game is a 16 x 24 tag board enlarged copy of the Performance Competence Model with approximately 150 cards. The first time the game was played, mini teams were given cards that described a variety of real life experiences (e.g., "you just found out you are pregnant", "you're moving next week", etc.). A participant drew a card and identified the spot on the model where the greatest impact on her/his system would be and explained why s/he believed this to be true. The other participants also explained where the experience described on the card would impact them and why. The object was for participants to understand that persons are affected differently by the same event due to their past experiences and present circumstances. In subsequent team activities, mini teams were given cards with characteristics of children and their families, and they learned how to see patterns of strengths (green cards) and needs (red cards) of a child and how the strengths can support the need areas. Playing the game created a framework for evaluation information and family concerns to be translated into programming suggestions.

2. **viewing a video of a child with special needs** and the child's family and then applying the information presented in the workshop to the child and family.

3. **Team Player Survey** by Glenn M. Parker. This self assessment instrument is designed to help the team member identify his/her style as a team player. By ranking the endings to 18 sentences and adding their scores, members discover which of four styles they most prefer: contributor, collaborator, communicator or challenger.

TIE Outreach staff will use the modules developed by TIE staff to provide training to state, regional and local teams providing a variety of services in early intervention in rural and urban areas to New Mexico's multicultural families.

Local Early Intervention Programs

The three model demonstration sites (New Vistas in Santa Fe, Pasitos de Ninos in Albuquerque, and the Rehabilitation Center in Las Vegas) received assessments on their teams' processes and the services they were providing to their families. Then training that team members and TIE staff identified as needed (by the assessments) was provided. New Vistas and Pasitos de Ninos were assessed and trained directly by TIE staff. The third site received an assessment and training from the team leader at New Vistas that was supervised by TIE staff.

The New Vistas site received the most thorough assessment. Data were collected from several sources:

1. interviews of New Vistas staff, agency representatives who interacted with New Vistas, and parents whose families were receiving services from New Vistas
2. observations of team meetings
3. review of artifacts
4. mapping the environment

5. instruments to assess individual team members' learning styles, team player styles, and conflict management styles; instruments to measure team members' assessments of their team's performance and family centeredness; and instruments to measure parents' satisfaction with services.

The major product from the data gathering process at New Vistas was a set of three "community maps" (see Appendix B). The maps provide New Vistas with a visual picture of the types of interactions they have with a variety of agencies and how these interactions are viewed by their own staff, by the parents they serve, and by the agencies themselves.

Training included sessions on team building skills, interdisciplinary communication skills and community resource building.

The other two sites, by their own choice, received less comprehensive assessments and training.

Training Events

TABLE A

Name	Date	Location	Disciplines	Number Trained	Type of Training
Division for Early Childhood (DEC) Conference	10/21/90	Albuquerque, NM	OT, PT, SLP, EC Spec., Parents	55	Support Issues Performance/Competence Model
Oregon OT Annual Conference	11/3/90	Oregon	OT	80	SI, Support Issues, Performance/Competence Model
SI Overview	11/4/90	Pacific University OT School	OT, Optometry	100	SI, Performance/Competence Model
Portland Public School Workshop	11/8/90	Portland, OR	EC, OT, SLP, PT, Admin.	60	SI, Performance/Competence Model
Florida SLP State Conference Neuroscience Basis for Joint Treatment (OT/SLP)	11/9 - 10/91	Miami, FL	SLP	200	SI, Performance/Competence Model, Neuroscience Basis for TX
Chicago Easter Seal Workshop	11/30 - 12/1/90	Chicago, IL	OT, PT, SLP, Parents	80	SI, Performance/Competence Model
Orange County Public Schools Workshop	1/22 - 23/91	Orlando, FL	Parents, OT, SLP, PT	200	Sensorimotor and communication relationships and joint therapy
Lecture in Communicative Disorders Class	2/11 & 2/18/91	UNM Albuquerque, NM	SLP	30	Joint therapy
Las Cruces Public Schools Workshop	2/23 - 24/91	Las Cruces, NM	Parents, OT, SLP, Sp. Ed.	90	SI Classroom, Performance/ Competence Model
Training in Public Schools (TIPS) Workshop	2/27 - 28/91	Santa Fe, NM	Reg. Ed., Sp. Ed., Parents, OT, PT, SLP, Admin.	70	Adapted Curriculum, Performance/Competence Model
Team Training Workshop	3/2 - 3/91	Indianapolis, IN	OT, PT, SLP	50	SI, Performance/Competence Model, Neuroscience basis for TX
Bristol Public Schools Teams & Family Consultation and Workshop	3/4 - 6/91	Bristol, TN	OT, PT, Sp. Ed., EC, SLP	30	Team/family consultation & workshop
Neuroscience Basis for TX (SI & NDT)	3/16 - 17/91	Seattle, WA AOTA	OT, PT	75	SI, NDT, Neuroscience Basis for TX

Training Events

TABLE A

Name	Date	Location	Disciplines	Number Trained	Type of Training
Lecture for EASI - Educational Assessment Systems, Inc.	3/20/91	Albuquerque, NM	SLP, OT, PT	50	Treating speech disorders using joint therapy
Neuroscience Basis for TX (SI & NDT)	4/5 - 6/91	Chicago, IL AOTA	OT, PT	60	SI, NDT, Neuroscience Basis for TX
Training in Public Schools (TIPS)	4/18 - 19/91	Alamagordo, NM	OT, PT, SLP, Admin.	40	Adapted Curriculum, TX, Performance/Competence Model
Professional Development Programs Forum on Sensory Integration	4/28/91	Minneapolis, MN	OT, PT, SLP, Parents, Educators	40	Neuroscience basis for TX, Performance/Competence Model
Florida Southeast Atlantic Regional Resource Center Workshop	5/1 - 3/91	Ft. Lauderdale, FL	Multiple (from 13 states & 3 territories)	48	Individual & family support issues (from Performance/ Competence Model)
State Dept. of Special Education Santa Fe Leadership Institute	6/4/91	Santa Fe, NM	EC, Reg. Ed., Ot, SLP	75	Performance/Competence Model
Danish OT Assn. Workshop on Sensory Integration and Communication Development	8/5/91	Copenhagen, Denmark Danish OT Assn.	OT, PT, SLP	100	Sensorimotor & communication relationships and joint therapy
U.K. Sensory Integration Assn. Workshop on Sensory Integration & Communication Development	8/6 - 9/91	Naestred, Denmark OT School	OT, PT	35	Joint TX Course
Workshop on Sensory Integration & Communication Development	8/16 - 17/91	Amsterdam, Netherlands	OT, PT, SLP	150	Sensorimotor & communication relationships and joint therapy
U.K. Sensory Integration Assn. Workshop on Sensory Integration & Communication Development	8/19 - 20/91	Chesterfield, England	OT, PT, SLP, Psychologists	100	Sensorimotor communication, joint TX
Magic Years Conference Workshop	9/5 - 6/91	Albuquerque, NM	Multiple	56	TIE Framework, Performance/ Competence Model
Magic Years Conference Workshop	9/5 - 6/91	Albuquerque, NM	Multiple	80	Sensorimotor, Communication, Cognitive Development

Training Events **TABLE A**

Name	Date	Location	Disciplines	Number Trained	Type of Training
Sensory Integration TX Application	11/18 - 20/91	Pacific University OT School	OT, Optometry	115	SI, Performance/Competence Model
Portland Public Schools Workshop	11/21/91	Portland, OR	OT, PT, SLP, Sp. Ed., EC	200	SI, Performance/Competence Model
Batavia BOCES Workshop	11/25 - 26/91	Albany, NY	OT, PT, SLP, Reg. & Sp. Ed.	150	SI, Sensorimotor relationship to learning & behavior
Dealing with diversity, Educational Assessment Systems	1/91	Albuquerque, NM	Mixed SLP	30 150	Team Training
Dealing with cultural diversity in communication: Cultural issues in development assessment, and intervention	6/91	Albany, NY	SLP	60	Team Training
"I know what you said, but what did you mean?": Communicating in a multicultural society	8/91	Austin, TX	SLP, mixed	50	Team Training
Communication and education in a culturally diverse world	10/91	Massachusetts	Mixed	50	Team Training
Acquisition of language and cognition through play	12/91	Avondale, MI	Mixed	50	Adapted Curriculum
Cultural diversity in development and education	3/92	Hawaii	Mixed	300	Team Training
Appreciating and managing cultural/linguistic diversity in educational and clinical settings	4/92	Secaucus, NJ	SLP, Educators	100	Team Training
Play observation: An ecological approach to assessment and intervention	6/92	McPherson, KS	Mixed	60	Adapted Curriculum
Preparing speech-language pathologists for the 21st century: Understanding a world of diversity	7/92	Memphis, TN	SLP	14	Discipline Specific Competencies

Training Events

TABLE A

Name	Date	Location	Disciplines	Number Trained	Type of Training
Pacitas de Niños Staff Training	12/10/91 3/31/92 2/28/92	Albuquerque, NM	PT, OT, SLP, Teachers	5 7 8	Team Building Consultation
New Vistas Early Childhood Staff Training	2/24/92 4/27/92	Santa Fe, NM	OT, PT, Teachers	5 5	Team Building Consultation
NEW TeamS Focus Group	6/8/92 6/22/92	Albuquerque, NM	OT, SLP, Child Development Specialist	4 4	Team Building Consultation
Washington Ave. Elementary School Team Training	7/20-21/92	Roswell, NM	OT, PT, SLP, Teachers, Parents	40	Team Building Consultation
Indian Children's Program Team Training	8/31/92 11/6/92	Albuquerque, NM	OT, PT, Physicians, Developmental Psychologists, Diagnosticians	9	Team Building Consultation
Magic Years Conference Workshop	9/4/92	Albuquerque, NM	Mixed	12	Assessing Team Culture
Zia Therapy Center Team Training	10/8/92	Alamagordo, NM	Mixed	7	Assessing Team Culture/Team Building
PIE Focus Group	11/6/92	Albuquerque, NM	Mixed	10	Data gathering for NEW TeamS teaming
Pacitas de Niños Staff Training	11/3/92 11/17/92	Albuquerque, NM	PT, OT, SLP, Teachers	5	Team Consultation
State Department of Special Education - Leadership Institute	6/92	Santa Fe, NM	OT, PT, SLP, Sp. Ed, Early Childhood, Reg. Ed.	10	Sensorimotor relationship to learning & behavior
Albuquerque Public Schools	6/92	Albuquerque, NM	OT, PT, SLP, Sp. Ed., Early Childhood, Reg. Ed.	20	Sensorimotor relationship to learning & behavior
UNM, Communication Disorders	4/92	Albuquerque, NM	SLP	20	Working with families
Symposium for Persons with Multiple Handicaps	2/92	Minneapolis, MN	SLP, OT, Sp. Ed.	100	SI & language & social emotional development
UNM, Communication Disorders	2/92	Albuquerque, NM	SLP	20	SI & Language

Training Events

TABLE A

Name	Date	Location	Disciplines	Number Trained	Type of Training
Carlsbad Public Schools	1/92	Carlsbad, NM	Multidisciplinary teams & regular ed. personnel	75	Performance Competence Model/case study application
Symposium for Persons with Multiple Handicaps	2/92	Minneapolis, MN	Multidisciplinary teams	60	Performance Competence Model/case study application
ENMRSH - Case coordinator training	3/92	Clovis, NM	Case managers - early childhood	8	Performance Competence Model/case study application
SWSH - Team Training	4/92	Silver City, NM	Multidisciplinary teams - early childhood	20	Performance Competence Model/case study application
Batavia BOCES	4/92	Batavia, NY	Multidisciplinary teams & regular ed. personnel	80	Performance Competence Model/case study application
Connecticut OT Association	5/92	Hartford, CT	OT	90	SI/NDT, Performance Competence Model
Ohio OT Association	6/92	Cincinnati, OH	OT	85	SI/NDT, Performance Competence Model
Florida OT Association	6/92	Orlando, FL	OT	100	SI/NDT, Performance Competence Model
Avanti Summit	7/92	Boulder, CO	OT	45	Performance Competence Model/case study application
Autism National Conference	7/92	Albuquerque, NM	Families, caregivers & multidisciplines	75	Performance Competence Model/Sensory Motor Diet
Region IX RCC Training	9/92	Ruidoso, NM	Multidisciplinary teams	10	Performance Competence Model
North Dakota OT Association	10/92	Fargo, ND	OT	80	SI/NDT, Performance Competence Model/Sensory Motor Diet
Hawaii OT Association	11/92	Honolulu, HI	OT	45	Oral & respiratory requirements in development, Performance Competence Model
Pacific University	12/92	Forest Grove, OR	OT students	28	Si & OT, Performance Competence Model

Training Events **TABLE A**

Name	Date	Location	Disciplines	Number Trained	Type of Training
Portland Public Schools	12/92	Portland, OR	OT, PT, SLP, teachers	60	Performance Competence Model/case study application
It's My Life	5/92	Los Lunas, NM	Case managers, service providers, diagnosticians, social workers	30	Performance Competence Model/case study application
Washington Ave. Elementary School, Staff Inservice	7/20-21/92	Roswell, NM	Teachers, grades K-6, Educ. Assts., Sp. Ed., OT, PT, SLP, Administrators	40	Inclusion: Building consensus & effective communication
Literacy in multicultural populations CT SLHA	10/92	New Haven	SLP	150	Literacy/culture
Aprendamos ASHA	11/92	San Antonio, TX	SLP	100	Culture
There may be holes in whole language ASHA	11/92	San Antonio, TX	SLP	300	Literacy
Communication in a culturally diverse world Eddie Lecture	10/92	Duluth, MN	Mixed	75	Culture
Professionals preparing for the 21st century ASHA	11/92	San Antonio, TX	SLP	100	Culture
Magic Years Conference Workshop	9/23/93	Albuquerque, NM	Multiple	38	Learning to Assess a Team's Performance
NEC*TAS Qualitative Evaluation Meeting	6/17/93	Albuquerque, NM	Multiple	30	How to Discover and Change a Team Culture
Taos County ARC Los Angelitos Preschool Team	8/25/93	Taos, NM	Multiple	7	Conflict Management
ENMRSH Early Childhood Team	6/8/93	Clovis, NM	Multiple	8	Conflict Management
Office of Special Education & Rehabilitation for Navajo Nations	5/24/93	Window Rock, AZ	Multiple	20	Mission Statement Development

Training Events **TABLE A**

Name	Date	Location	Disciplines	Number Trained	Type of Training
Los Niños Project, UAP	3/2/93	Albuquerque, NM	Multiple	5	Mission Statement Development
Los Niños Project, UAP	8/26/93	Albuquerque, NM	Multiple	5	Learning to give feedback to team mates
Zia Therapy Center	4/13/93	Alamagordo, NM	Multiple	7	Conflict Management
Cross-cultural issues in brain injury rehabilitation	1/93	Santa Barbara, CA	Mixed	30	Culture
Communication in culturally diverse classrooms; and Facilitating learning in college students Hunter College & Queens College	3/93	New York, NY	Mixed	100	Culture; literacy; learning strategies
Culture and communication in education MSHA	3/93	Traverse City, MI	SLP	50	Culture and literacy
Instructional discourse CEC	4/93	San Antonio, TX	Mixed	100	Language and learning
Narratives across cultures CEC	4/93	San Antonio, TX	Mixed	100	Culture and literacy
Multicultural issues in serving diverse populations Henry Ford Hospital	4/93	Detroit, MI	Mixed	150	Multicultural issues
Literate and academic discourse Emerson College	6/93	Boston, MA	Mixed	200	Culture and literacy
Understanding the culture of teams Henry Ford Hospital	6/93	Detroit, MI	Mixed	50	Team Building
Storytelling EASI	9/93	Albuquerque, NM	SLP	30	Narrative assessment and facilitation
Multicultural assessment SKI*HI	8/93	Durango, CO	Mixed	30	Assessment issues

Training Events

TABLE A

Name	Date	Location	Disciplines	Number Trained	Type of Training
Play and language development SKI*HI	8/93	Durango, CO	Mixed	75	Play
Play and language development	8/93	Farmington, NM	Mixed	40	Play
Multicultural issues College of St. Rose	6/93	Albany, NY	SLP	65	Assessment
Ethnographic interviewing UNM	2/93	Albuquerque, NM	SLP	15	Assessment
Assessment through play	3/93	Albuquerque, NM	SLP	15	Assessment
Sarasota Public Schools	3/18-19/93	Sarasota, FL	SLP, OT, Sp. Ed.	100	Sensorimotor relationships to communication, learning and behavior
California OT Associates	1/17-18/93	Glendale, CA	OT, PT, SLP	60	SI/NDT, PC Model, Sensory Motor Diet
Ohio OT Associates	2/19-20/93	Columbus, OH	OT, PT, SLP	80	SI, PC Model, Sensory Motor Diet
Professional Development Programs	2/26-28/93	Minneapolis, MN	OT, PT, SLP, Educators	150	SI, Pc Model, Sensory Motor Diet
Sarasota Public Schools	3/18-20/93	Sarasota, FL	OT, PT, SLP	90	SI/Language, PC Model, Sensory Motor Diet
Massachusetts OT Associates	4/23-24/93	Boston, Mass.	OT, PT, SLP	60	SI, PC Model, Sensory Motor Diet
Illinois OT Associates	4/30-5/1/93	Chicago, IL	OT, PT	80	SI/NDT, PC Model, Sensory Motor Diet
Chapel Hill OTs	5/7-9/93	Chapel Hill, NC	OT, PT, SLP	30	SI, PC Model, Sensory Motor Diet
Michigan OT Associates	5/22-23/93	Kalamazoo, MI	OT, PT, SLP	50	SI, PC Model, Sensory Motor Diet
AOTA Conference	6/21-22/93	Seattle, WA	OT	250	SI, PC Model, Sensory Motor Diet
Minnesota OTs	7/9-10/93	Minneapolis, MN	OT	30	SI, PC Model, Sensory Motor Diet

Training Events

TABLE A

Name	Date	Location	Disciplines	Number Trained	Type of Training
Avanti Camp Staff	9/23-27/93	Estes Park, CO	OT, SLP, Educators	35	SI, PC Model, Sensory Motor Diet
Denver Children's Hospital	10/9/93	Denver, CO	OT, PT, SLP, Educators	250	SI, PC Model, Sensory Motor Diet

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VII. Departures from Original Plans

Initially, Project TIE staff planned to train four groups of individuals -- health care professionals, OTs/PTs, SLPs and family members -- in separate workshops, to be more effective members of early intervention teams. As we began to develop the training content, we realized that the training could be more meaningful if we designed it in such a way that the groups could interact with one another. Thus, we developed the format for training that was described in Section VI, and incorporated one of our original objectives (#3 - Train teams in common areas of critical competencies) into objectives #2 (Train community teams) and #4 (Train individual disciplines in competencies needed in early intervention). For purposes of this report (Section IV), the objectives were renumbered.

During the first year of the project, staff realized that the development of the community map (which is part of objective #2, and is described in Section VI) proved to be an undertaking of much greater magnitude than originally envisioned. Rather than scale down the activity, we put a great deal of staff time into this effort in order to do it thoroughly at one location, and did not attempt to complete a similar map at our Albuquerque site.

After field-testing the TIE training for the four discipline groups, we realized that we needed a video presentation of a child and family to provide our teams with an opportunity to apply new skills in designing intervention plans or support. Thus, we added a staff member, a child development specialist with skills in filmmaking, who produced such a videotape. She has also collaborated with the Training Coordinator to supervise the final production of the TIE modules. Her expertise greatly enriched the materials developed by Project TIE.

VIII. Research Findings

PROJECT TIE

SUMMARY OF THE INDIVIDUAL COMPETENCY EVALUATION

1992 and 1993

Introduction

Project TIE conducted training in 1992 and 1993 with parents and professionals in three areas: (1) Competencies basic to all disciplines, (2) Team skills, and (3) Discipline specific information that each discipline should share with the other disciplines. The objective of this initial phase of training was to increase the knowledge and expertise of professionals and parents in these areas. To evaluate the success of this objective, trainees were administered a competency exam prior to training and after training. This report summarizes the results of these evaluations which focussed on the individual competencies that were acquired through training. The evaluation findings are reported separately for the training conducted in the 1992 and 1993 grant years because modifications were made in both the curriculum and the competency exam. These changes occurred as a consequence of the 1992 training experiences of Project TIE staff and the evaluation findings.

Rationale For Competency Evaluations

Project TIE assessed individual competencies through a written exam designed to assess knowledge that was key to working proficiently in the areas designated for training. Whenever possible, exam items were designed to assess knowledge that would have a direct bearing on actual skills. The assessment of competencies is the most valid way of obtaining information about an individual's knowledge in a particular content area. Apart from evaluating the success of the training provided by Project TIE, there are other reasons why it is desirable to evaluate an individual's mastery of knowledge. First, competency assessment is important in professions where it is necessary to insure that a provider has achieved a skill level that experts in the profession consider essential for working proficiently in a field. Second, competency assessments can be used by educators to plan their training activities when expertise is evaluated prior to training. Third, competency assessments can be used to provide feedback to trainees about their performance which can serve as a learning opportunity and a basis for planning future training activities. In addition, through furnishing trainees with feedback about their performance, educators may also gain further insight into whether

exam questions need clarification or if more training or alternative teaching approaches are required in some areas.

Description of Trainees

Training was conducted in 1992 with 78 participants. Fifty seven trainees (73%) completed the pre- and post-competency exams. Of this latter group there were 24 speech/language pathologists (42%), 19 occupational or physical therapists (33%), 6 health care professionals (11%), and 8 parents (14%).

Training was provided in 1993 to 43 individuals. Thirty seven trainees (86%) completed both the pre- and post-competency exams. Of these participants there were 6 speech/language pathologists (16%), 9 occupational or physical therapists (24%), 10 health care professionals (27%), and 12 parents (32%).

Description of the Competency Exam: 1992

There were 28 questions on the competency exam (see Appendix). The content validity of each item was established through consensus by the Project staff about whether the substance of a test item was key to acquiring expertise in a particular area. How "good" were these competency exams? There are criteria for determining if an test is a good measure of knowledge and sensitive to changes in expertise as a consequence of training. First, good items generate a distribution of responses such that the majority of trainees do not pass the item before training. When a large percentage of trainees already know the answer, the item is not sensitive either because it is poorly written (e.g., the answer is obvious even to someone who doesn't have a grasp of the content; it's easy to guess the correct answer simply by chance as with many true/false statements) or because trainees are already knowledgeable in the area. While trainees may have some expertise in the component, the majority should not pass an exam item (or the entire exam) if indeed they require training. A second criterion pertains to the distribution of scores on items and the entire exam after training. What does it mean when a large percentage of trainees do not show improvement on an item or the entire test? This question can be difficult to answer as it depends, in part, upon the extent to which educators expect trainees to master the material. Nonetheless, when this situation occurs it is important to re-examine an item or the entire test to determine if it is too difficult, if questions are unclear, or if training was inadequate in certain key domains.

Table 1. Summary of the Evaluation of Individual Questions from the 1992 Competency Exam.

	Too Easy[1]	Difficult[2]
Question Number	1, 2, 3, 4, 11, 12, 13, 14	10, 26

[1] These questions were those in which 75% or more of the trainees obtained a perfect score prior to training.

[2] These questions were those in which fewer than 20% of the trainees obtained 50% of more points for a particular item after training.

The above guidelines were applied to the competency exam to evaluate the sensitivity of individual test items and the entire exams in assessing expertise in each training component. Table 1 lists the questions that were identified as too easy and too difficult. Questions identified as too easy were those in which 75% or more of the trainees obtained a perfect score prior to training. These questions comprised a relatively small proportion of the total score on the exam (13%). Two questions that appeared potentially difficult, but comprised only 10% of the total exam score, were also identified. For these questions, fewer than 20% of the trainees obtained 50% of more points for a particular item on the post test exam. The reason(s) why these questions appeared difficult for the majority of participants was not clear, but these questions should be re-examined for clarity and whether their content was adequately addressed through training. The remaining questions appeared to be "good" using the above criteria. Hence, 73% of the total exam points were founded on good exam items.

Success of Training In 1992

How successful was the training in the first grant year (1992)? To look at this, we compared the performance on the pretest and the post-test competency exams. Table 2 summarizes the results and shows the percentage of the total exam scores obtained by trainees.

Before discussing the evaluation findings, it is important to address some concerns related to interpreting the amount of knowledge acquired as a consequence of training. How do we define progress? Typically, competency exams are criterion based or, in other words, a certain percent of the total information on the exam

must be mastered to achieve an acceptable skill level. A criterion of 70 to 80 percent is often adopted, but this may vary depending upon many factors including the educational background of trainees, their initial performance level, and the goals of the training. Specifically, trainees with very low assessment scores (and presumably little exposure to a topic area) prior to training may show meaningful improvements in their knowledge base yet not demonstrate mastery of a high percentage of the tested material. However, it is probably not reasonable to expect trainees with little exposure to an area to master 70% or more of the knowledge, especially when acquiring the knowledge is dependent, in part, on "hands on" experience with the information. This was true for some topics trained by Project TIE, especially in the area of team skills. Instead, the training objective might be better focussed initially on creating an awareness of the general issues with future training emphasizing more ambitious goals. This latter factor is particularly relevant in the present evaluation as training was conducted over a short period of time. Hence, the criteria for evaluating the success of each training component should depend upon these considerations.

With these comments in mind, let us return to the data in Table 2. An inspection of the findings shows there was clear evidence that trainees' understanding of the information was substantially improved after the Project TIE training. Before training, only 31% of all trainees demonstrated knowledge of more than 60% of the information. In contrast, after training 61% showed an understanding of more than 60% of the material, and the percentage who understood 60% or less of the information decreased substantially. This pattern of findings was very similar across the different professions and the parents. In addition, over half of the trainees (53%) learned between 10% to 40% new information on the post-test competency exam and this was true for all of the groups.

Table 3 shows the mean pretest and post-test competency exam scores for each of the professions and the parents. An inspection of these data suggest that all of the groups demonstrated similar competency levels prior to training and showed similar amounts of improvement after training. An analysis of variance with repeated measures confirmed these observations. Specifically, there was not a significant difference among the groups on the pretest or the post-test competency exam. All groups showed a significant improvement in exam scores after training [$F(1,53)=35.42$, $p<.001$]. Moreover, the nonsignificant interaction of group and test period [$F<1.0$] indicated that all groups showed similar gains in new knowledge after training.

Table 2. The Percent of Trainees Who Mastered Different Amounts of Knowledge on the Competency Exam Before and After Training: 1992 Evaluation Findings[1]

	PERCENT OF TOTAL EXAM SCORE				
	0% To 20%	21% To 40%	41% To 60%	61% To 80%	81% To 100%
SLPs (n=24)					
PRETEST	0%	12%	50%	38%	0%
POST TEST	0%	4%	33%	54%	9%
OTs & PTs (n=19)					
PRETEST	0%	5%	64%	26%	5%
POST TEST	0%	5%	26%	58%	11%
HEALTH CARE PROFESSIONALS (n=6)					
PRETEST	0%	17%	66%	17%	0%
POST TEST	0%	0%	66%	17%	17%
PARENTS (n=8)					
PRETEST	12%	38%	25%	25%	0%
POST TEST	0%	25%	12%	38%	25%
ALL TRAINEES (n=57)					
PRETEST	2%	14%	54%	29%	2%
POST TEST	0%	7%	32%	49%	12%

[1] The tabled numbers represent the percentage of trainees who mastered a particular proportion of the total test information. There was a total of 60 exam points.

Table 3. Pretest and Post Test Means (Standard Deviations) on the Competency Exam: 1992 Grant Year

	BEFORE TRAINING	AFTER TRAINING
Speech/Language Pathologists	34.0 (8.1)	41.1 (7.2)
Occupational/Physical Therapists	34.4 (6.9)	38.8 (7.0)
Health Care Professionals	29.5 (5.7)	38.0 (8.7)
Parents	28.1 (11.5)	36.9 (13.5)
All Trainees	32.8 (8.2)	39.4 (8.3)

Note. There were 60 possible points on the competency exam.

Conclusions. The findings from the 1992 competency evaluation were supportive of the success of Project TIE in enhancing trainees' knowledge and presumably, their skills upon which the knowledge serves as a foundation. Moreover, different professionals and the parents benefitted equally from the training. This may have been due, in part, to the fact that all four groups of trainees demonstrated similar levels of knowledge prior to training. Despite the success of Project TIE, continued training with these groups appears warranted because almost 40% of the trainees did not master more than 60% of the material on the competency exam.

Training Modifications and the Competency Exam: 1993

Several changes were made in the curriculum for the 1993 training. In the original curriculum, much of the material was derived from the Performance Competency Model. A closer examination of this model suggested that the material may have been too difficult to teach within the allotted time. Hence, exposure to this information was increased considerably (i.e., the time spent on this model was approximately tripled). More training time was also spent on cultural issues. As a consequence, the total amount of training was increased to 3 days. The sequence of training activities also changed. On the third day of training, the case study involved a child who was "at risk" to insure that all

professional disciplines would have substantive contributions. This case study was presented using a professionally made videotape. In addition, all of the facilitators practiced with the group so that they were more clear on the training instructions, and all presenters carefully reviewed the content of the competency exam to insure that their training would address the key content areas.

Table 4. Summary of the Evaluation of Individual Questions from the 1993 Competency Exam.

	Too Easy[1]	Difficult[2]
Question Number	1, 2, 3, 4, 7, 12, 13, 19, 29	14

[1] These questions were those in which 75% or more of the trainees obtained a perfect score prior to training.

[2] These questions were those in which fewer than 20% of the trainees obtained 50% of more points for a particular item after training.

On the revised competency exam (see Appendix), 3 new questions were added and one question was modified. There was a total of 59 points. Table 4 summarizes the questions that were found to be too easy and too difficult using the same criteria as in the 1992 competency exam. Similar to the 1992 item analyses, questions 1 through 4, 12, and 13 were passed by over 80% of the participants prior to training. These questions constitute only 10 percent of the total exam points. Therefore, it may not be necessary to eliminate them from the exam as adult educational practices would suggest it is desirable to have some easy questions to help build the confidence of participants. Questions 11 and 14, which were found too easy on the 1992 competency evaluation, did not fall into this category in the 1993 evaluation. Seventy percent of the participants passed question 11 suggesting that it is not consistently too easy and thus, may be a good question. Question 14 was revised such that only 11% of the participants obtained 50% or more of the points after training. This outcome suggests question 14 may now be too difficult and/or more training is required in the content area of this question (i.e., characteristics of mainstream culture). The item analyses also identified additional questions that were too easy: 7, 19 (18 on original exam), and 29 (28 on original exam). However, these same

questions were not too easy on the 1992 exam which, again, indicates they are not consistently passed by 75 percent or more of the participants before training. Questions 10 and 26 (25 on original exam) were no longer considered too difficult which may be due to the changes in training. In summary, it appears that about 83% of the total exam points were based on good exam questions using our previously adopted criteria for the item analyses. This represents an improvement over the 1992 item analyses. Three additional questions appeared too easy on this competency evaluation but not on the earlier evaluation (i.e., 1992) which may be due to the 1993 participants' greater familiarity with the information before training (see next section findings).

Success of Training In 1993

Table 5 summarizes the findings from the 1993 competency evaluation for all participants, and separately for speech-language pathologists (SLPs), occupational and physical therapists (OTs and PTs), health care professionals, and parents. This table shows that the 1993 participants were somewhat more familiar with the content area than the 1992 participants. Specifically, prior to training approximately 59% of the entire group demonstrated knowledge of more than 60% of the material. Despite this, there was clear evidence that all trainees' understanding of the material improved after Project TIE training as 76% mastered 60% or more of the training content. However, in contrast to the 1992 training, parents and health care professionals were less familiar with the training content than SLPs, OTs, and PTs. After training, about half of the parents had mastered more than 60% of the information whereas 80% or more of the professionals demonstrated knowledge of more than 60% of the material.

While Table 5 suggests that participants with less of a background in the training content did not benefit as much from the training, the statistical analyses were not supportive of this conclusion. Table 6 shows the mean pretest and post-test competency exam scores for each of the professions and the parents. An analysis of variance (ANOVA) confirmed that the mean pretest score was significantly lower for parents and health care professionals than for SLPs, OTs, and PTs [$F(3,33=2.83$, $p<.05$]. However, an ANOVA with repeated measures showed that all groups improved their understanding of the material after training [$F(1,33)=15.98$, $p<.001$]. Further, there was not a significant difference between the groups in the amount of information acquired as a consequence of training [$F(3,33)=0.42$, $p>.05$ for the interaction of group X pre/post test]. While there were still some trends for parents to show lower post-test exam scores, this was not statistically reliable [$F(3,33)=2.45$, $p>.05$]. In summary,

Table 5. The Percent of Trainees Who Mastered Different Amounts of Knowledge on t Competency Exam Before and After Training: 1993 Evaluation Findings[1]

	PERCENT OF TOTAL EXAM SCORE				
	0% To 20%	21% To 40%	41% To 60%	61% To 80%	81% To 100%
SLPs (n=24)					
PRETEST	0%	0%	0%	67%	33%
POST TEST	0%	0%	0%	50%	50%
OTs & PTs (n=19)					
PRETEST	0%	0%	33%	67%	0%
POST TEST	0%	0%	11%	67%	22%
HEALTH CARE PROFESSIONALS (n=6)					
PRETEST	0%	10%	40%	40%	10%
POST TEST	0%	10%	10%	60%	20%
PARENTS (n=8)					
PRETEST	0%	50%	8%	42%	0%
POST TEST	0%	8%	42%	33%	17%
ALL TRAINEES (n=57)					
PRETEST	0%	19%	22%	51%	8%
POST TEST	0%	5%	19%	52%	24%

[1] The tabled numbers represent the percentage of trainees who mastered a particular proportion of the total test information. The total number of exam points was 59.

Table 6. Pretest and Post Test Means (Standard Deviations) on the Competency Exam: 1993 Grant Year

	BEFORE TRAINING	AFTER TRAINING
Speech/Language Pathologists	43.3 (5.6)	46.7 (2.9)
Occupational/Physical Therapists	37.7 (5.7)	43.0 (5.9)
Health Care Professionals	36.1 (10.1)	40.4 (7.8)
Parents	30.4 (11.5)	37.4 (8.9)
All Trainees	35.8 (9.9)	41.1 (7.7)

Note. There were 59 possible points on the competency exam.

although both Tables 5 and 6 suggest that there may be a trend, particularly for parents, to master less of the material after training, this was not substantiated statistically, likely because of the large variability in test performance in the parent group.

Summary Remarks

The findings from the competency evaluations of both grant years were supportive of the success of Project TIE in enhancing trainees' knowledge and presumably, their skills upon which the knowledge serves as a foundation. A particularly encouraging outcome was that the different professionals and the parents benefitted equally from the training. This finding should be treated with some caution as there was a trend (i.e., nonsignificant) in the 1993 training for parents who had less familiarity with the material prior to training to achieve less of an understanding of the information after training. This trend, however, only suggests that additional training might be especially worthwhile for this group.

Despite the success of the project in both grant years, continued training with these groups will likely be beneficial as many trainees (24 to 39%) did not master more than 60% of the material on the competency exam. A related issue pertains to

establishing criteria for proficient performance on the competency exam. Explicit guidelines should be developed to evaluate trainees' performance on the competency exams and, thus, success of the training and the need for additional training with programs. A criterion-based approach should be considered which addresses the expectancies of training goals (e.g., increase awareness, train professionals to work proficiently in the content area). These expectancies should be realistic in terms of considering the time frame for training and the need for opportunities to practice skills before acquiring a sufficient understanding of some key topics (i.e., team skills).

IX. Project Impact

Project TIE worked to impact the field of early intervention for children with disabilities and their families in a variety of ways. The training and its impact have been described in Section VI of this report. Other significant activities include development of a process to be used by teams for community mapping, a number of research papers and reports, the development of a new model to observe and describe the behavior of young children and others, a training video-taped production describing a toddler with developmental disabilities and his family, and a total of six packaged training modules designed to enhance training in a variety of areas related to early intervention services. These are described below:

Community Map: A "community map" was developed for the New Vistas pilot site. See Section VI and Appendix B of this report.

A number of **research papers and reports** were completed by Project TIE staff, including:

The Role of Team Culture in Assessment and Intervention - by Carol E. Westby and Valerie Ford, University of New Mexico; in Journal of Educational and Psychological Consultation, 4(4), 319-341. The results of educational assessment are as much or more dependent on the culture of the evaluation team as they are on the culture, strengths, and needs of the children who are evaluated and their families. This article reviews selected ethnographic approaches to the study of team culture, discusses the manifestations of the culture of developmental or educational assessment teams, and describes an ethnographic study of an early intervention team and the way the team culture affected its assessment and intervention strategies.

Professional Communicative Paradigms in Family-Centered Service Delivery - by Carol E. Westby and Valerie Ford. Manuscript accepted for publication by ASHA Monographs.

Factors Related to the Recruitment and Retention of Professionals from Specialized Disciplines - A survey was developed to determine what factors were important in the recruitment and retention of qualified personnel from specialized fields (i.e., speech/language pathology, occupational therapy and physical therapy). The survey was completed by 455 professionals in these disciplines and a principal-components analysis was used to identify six significant factors that were important in career decisions for these individuals. The results of this study have been presented at the International DEC Conference in Washington, D.C. in December 1992 and at the Magic Years Conference in Albuquerque, New Mexico in September 1993.

A Report from Families: Family Reaction to Early Intervention Services: Summary of Findings from New Vistas, February 1992 - This report summarizes family reactions to early intervention program services as assessed by the Report From Families Survey. The data are from a sample of 9 families receiving services at New Vistas. (See Section VIII of this report.)

Performance Competence Model - A model was developed and revised to facilitate professionals' ability to bring together key information from numerous fields to allow teams to look at critical, common factors that facilitate and inhibit a child's performance and competence. This model was used as the foundation for the TIE trainings and is described in detail in the "Getting Started" training module. In

addition, a "game" was developed to enhance training, and sample game boards and game cards will be included in the training module. (See Appendix A for a discussion of this model.)

Video Tape - Project TIE produced a unique video tape program as a team training tool for the Performance Competence Model. Participants are able to apply knowledge from their own experiences as professionals and family members while following a toddler with identified developmental disabilities through a "typical" day. The tape includes sequences such as: self-care routines, exploratory play, social interactions with family members and others, and key transitions. Short interview segments with family members allow for additional information and insight.

Training Modules - A total of six training modules will be available from Project TIE Outreach. Titles of the modules are: **Introduction: Getting Started, Occupational/Physical Therapy Module, Family Module, Speech/Language Pathology Module, Health Care Professional Module, and Discovering Team Culture.** The TIE modules are designed to be used by experienced inservice trainers representing each of the four groups -- families, speech/language pathologists, occupational or physical therapists, and health care professionals. For example, the SLP module should be taught by a speech/language pathologist who is comfortable providing consultation or inservice training. The modules may be used at the same time, in a workshop attended by all four groups, or separately, in a workshop attended by one specific group. All groups should receive training in the introductory module before going on to participate in what we have described as "discipline-specific" training. For more information, contact Bambi Jackson, Training and Technical Assistance Unit/NM UAP, UNM School of Medicine, Albuquerque, NM 87131; phone: (505) 272-3000.

X. Future Activities

Project TIE has been funded as an outreach project beginning October 1, 1993, and will utilize components of the model to extend its benefits to greater numbers of families and professionals, particularly in rural areas.

The first goal of TIE Outreach is to train statewide, regional and local interdisciplinary teams (that include families members) in New Mexico in order to:

a. improve interdisciplinary communication
b. furnish a common framework for early intervention
c. develop team building skills, and
d. build strong linkages in communities,

resulting in services that are culturally competent and family-centered. Designed originally as an inservice training model for related services personnel, the TIE model targets four groups for training: family members, health care professionals, speech/language pathologists, and occupational and physical therapists.

XI. Assurance Statement

Copies of the full final report for Project TIE have been sent to the following individuals/offices:

- Ms. Mary Vast at OSEP (3) and
- ERIC/OSEP Special Project.

The title page and abstract for Project TIE's Final Report have been sent to the following programs:

- NEC*TAS
- National Clearinghouse for Professions in Special Education at CEC
- NICHCY
- TAPP
- National Diffusion Network
- CASSP
- Northeast Regional Resource Center
- Mid South Regional Resource Center
- South Atlantic Regional Resource Center
- Great Lake Area Regional Resource Center
- Mountain Plains Regional Resource Center
- Western Regional Resource Center
- Federal Regional Resource Center

APPENDICES

A. Performance Competence Model Discussion

B. Community Maps

C. Reference List

D. Competency Exams: Year 1 & Year 2

Appendix A

Performance Competence Model Discussion

PERFORMANCE COMPETENCE MODEL

A NARRATIVE DISCUSSION
by Meave StevensDominguez

The Performance Competence Model is not a new set of information or knowledge to be memorized. Rather it is a re-ordering of known information into a holistic picture that provides a reference for understanding a larger body of information. The model was developed to present "shared windows," critical factors that facilitate and inhibit a child's performance and competence. Philosophically, the model promotes a holistic view of the child within the context of the child's personal characteristics, preferences, environments, family and culture. It provides a structure for team members from a variety of disciplines to understand and interpret key issues and plan appropriate supports and interventions.

The strength of the model (as in all models) lies in its applicability to all persons, with or without developmental delays and/or disabilities. If we use the analogy of a person (or child) being like a large mansion full of windows, then specific disciplines (i.e., health, education, occupational therapists, physical therapists, family, speech and language therapists) see through certain windows with special clarity (related to their disciplines). We are dependent on these individual disciplines for specific knowledge that they gain from their particular windows. There are other windows through which all disciplines can see with some clarity. These are common windows of knowledge and allow a shared view of critical factors that affect a child's (or person's) performance and competence. Disciplines discuss and share knowledge by referring to these common windows or areas to promote a fuller understanding of the child.

Before discussing the various areas within the model, the definitions of the words "performance" and "competence" are presented as used within this model. The developers of the model are aware of the many subtle differences across fields of both the definitions and connotations for the terms "performance" and "competence".

PERFORMANCE: The way or manner in which you act, or are able to express yourself or respond, given different situations and requirements.

PERSONAL COMPETENCE: Performing in a way or manner that one (as an individual) feels good about.

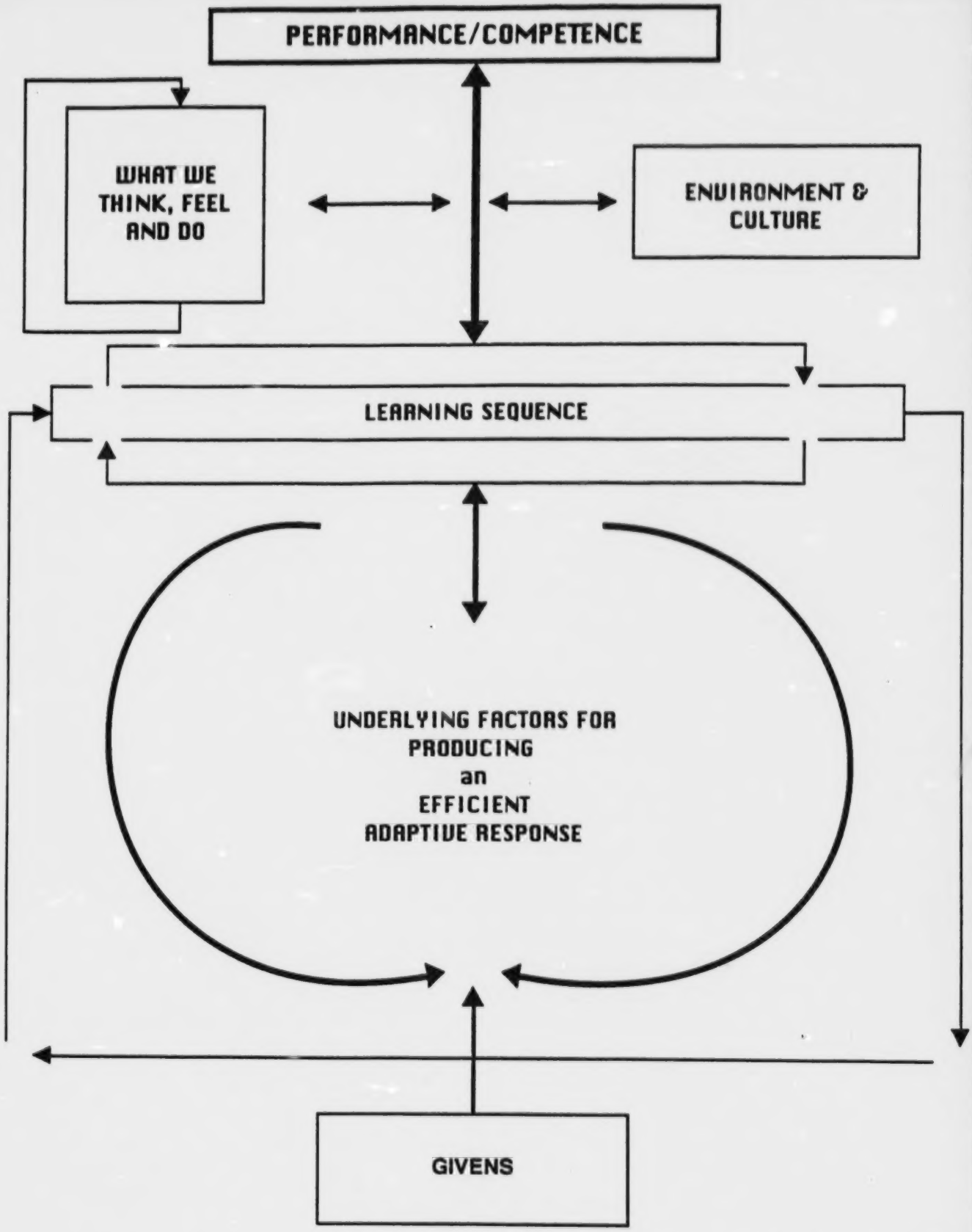
SPECIFIC COMPETENCE: The ability to perform a task or activity in a way that meets some specific standards.

EXPLANATION OF THE BROAD AREAS ON THE FRAMEWORK

It is helpful in learning to use the model as a frame of reference for interdisciplinary work, to look first at the broad areas on the model. These broad areas are depicted in **Figure 1.** The areas are discussed beginning at the bottom of the figure and moving up. This bottom-up presentation reflects the method used to present the model to training participants. It is also similar to the sequence that children follow during development. In practice, the model is circular, expanding (responses to disequilibrium stresses, illness) and contracting (equilibrium, adaptive response) as the person responds to events. Positive or negative impacts (as perceived differently by each person) may hit initially at one point in the framework and then impact at multiple points. Some actual examples will be discussed later for clarity.

GIVENS - This area represents information that we can count on or that is fairly consistent over time. Examples include culture, temperament, health issues (e.g., diabetes) and genetic disorders.

UNDERLYING FACTORS - This area represents key factors operating within the central nervous system that underlie individual performance. All performance emerges as an **adaptive response.** Examples of this would include changes in breathing to accommodate oxygen levels, increased muscle tone to reach and grasp an object, weight shifts to ride a bicycle, writing down information in order to retain it. Each factor in this area plays a key role in making an efficient adaptive response. When looking at internal self regulatory functions, it is easy to see that a person who has a fever and is nauseous would have difficulty maintaining arousal/alertness, might have reduced freedom and control of movement and subsequent difficulty with all factors underlying efficient adaptive responses. This same sequence could be applied to a child with Down



Oetter & StevensDominguez, 1991, Training Unit, UAP/UNM

Figure 1

Syndrome who has low muscle tone and frequently experiences respiratory difficulties.

DEVELOPMENTAL LEARNING SEQUENCE is the circular learning pattern that we follow to reach competence. We, as adults, have and have had innumerable sequences that resulted in a vast area of skills. Some of these represent sequences that led to competence, and with some sequences we never moved past the **comfort/safety** or **confidence** area. When we, as adults, enter a sequence that has not resulted in competence (approaching a group of unfamiliar people), we may attempt to replace it with another with which we feel **competent** (talking to one familiar person). In early learning, these sequences are especially vulnerable to the outcomes. Children who have cerebral palsy may frequently feel unsafe or uncomfortable when attempting motor tasks. A child with sensory defensiveness may not only feel uncomfortable or unsafe, but, when attempting to try new tasks (**risk-taking**), may have such negative experiences that she may be unwilling to attempt a particular task again (or any similar tasks).

WHAT WE THINK, FEEL AND DO covers the areas that we typically address in standard types of assessment as well as areas we sometimes overlook or address with words like "poor self-image." We look at **physical** (all body related), **intellectual** (cognitive, language, self-help, motor planning), **emotional** (feelings about self, world) and **spiritual** (overall sense of self, purpose and specialness). We are most familiar with these areas given our training and available assessment tools. These areas are often where we first pick up information that something may not be going well for this child. It may be the first place that we begin to question and explore. The performance competence model provides pathways to other areas of exploration and meaning.

INDIVIDUAL ENVIRONMENT AND CULTURE is the area that addresses what is unique to the individual, including one's **quality of life**, **membership** and a **personal sense of competence**. This area is the ultimate "yardstick" for determining if we are on the right track in looking at information to plan supports. The supports we plan should impact these areas positively, **never** negatively. As such, this area of the model becomes the place for looking at quality assurance. If we provide therapy to a young child during outdoor play, we may reduce his opportunity for peer play (**membership**) and have an unhappy child (**quality of life**). If we try to get a child to engage in group manipulatives with requirements outside his range of ability, then we may have a child who feels poorly about his performance (**personal sense of competence**). If

we design a language stimulation program for a young Navajo child that encourages language use frowned on by her culture, then we may produce threats to all areas (**quality of life, membership and a personal sense of competence**).

SPECIFIC FACTORS WITHIN EACH OF THE BROAD AREAS

Figure 2 depicts the full Performance Competence Model. The specific factors within each of the broad areas are identified. The straight and curved lines with arrows are meant to depict the constant interaction possibilities among all areas and all factors within the model. The following list provides examples for each of the factors within the broader areas. This list is followed by some "people" examples to illustrate both the individual factors and the possible interactions. It is important to remember that there are no "right" answers to the scenarios resulting from a particular event (or combination of events) as each person is unique in both how she experiences the world (internal and external) and how she responds. It is our goal to "see" as clear a picture as possible in order to support positive performance and competence for each individual.

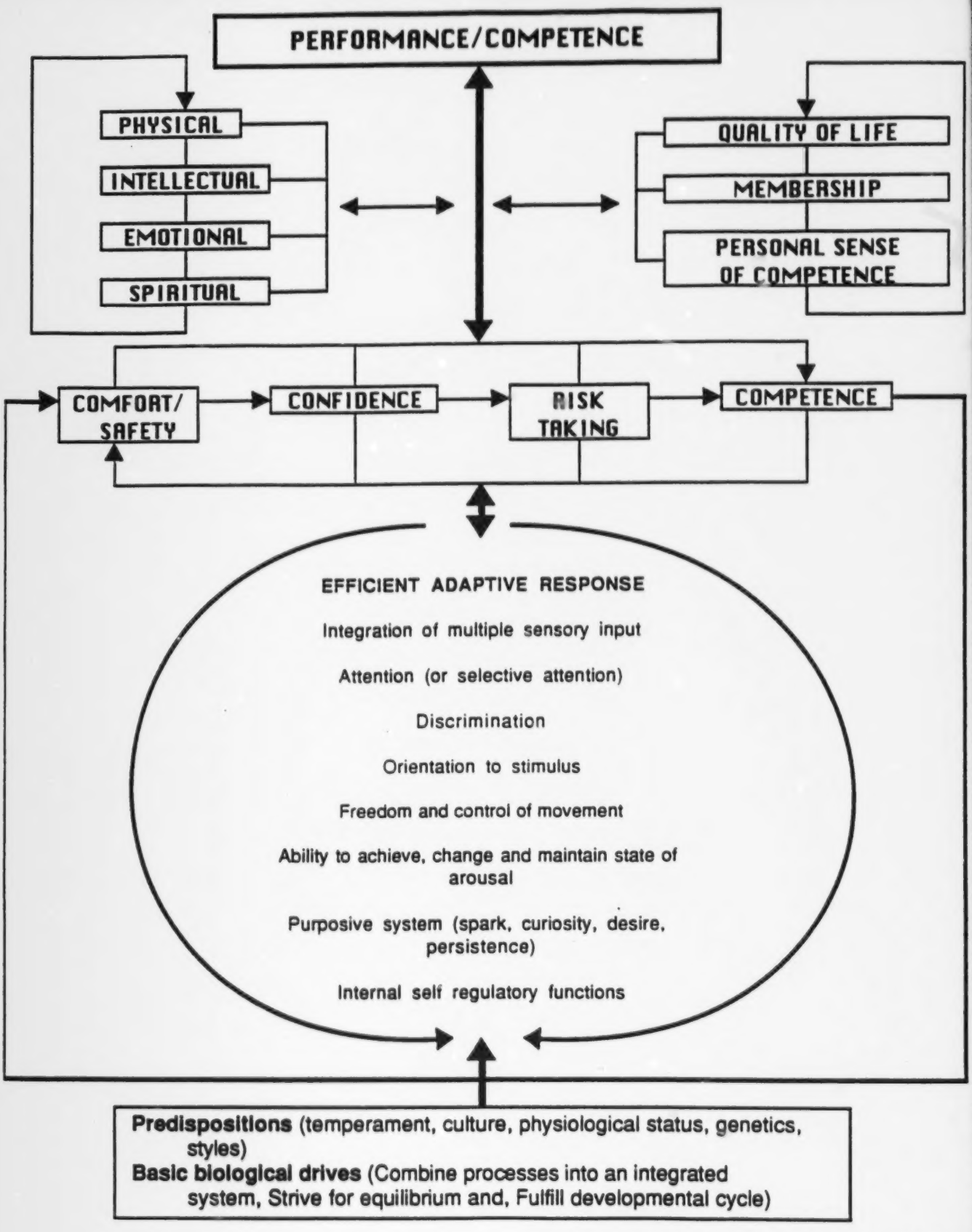
List of factors within broad areas of model with examples

Basic Biological Drives (Ayers, 1979; Ayers, 1985; Noback & Demarest, 1981; Patten et al, 1989)

- The drive to integrate processes (i.e., suck/swallow/breathe, integration of sight and hearing)
- Internal drive (i.e., human drive for upright/interaction/ exploration, for use of preprogrammed motor skills)
- Homeostasis (i.e., equilibrium re: sensory motor comfort, internal physiology)
- Preprogrammed motor skills

Predispositions (Thomas & Chess, 1977; Bates et al, 1988)

- Temperament - difficult & easy, may be related to sensory integration/processing
- Genetics & Culture - activity levels, language, interactive styles
- Physiological status - health, organic status/anomalies irritability due to hypoglycemia, seizures
- Styles - social vs. object, visual/auditory/kinesthetic/ participatory



Oetter & StevensDominguez, 1991, Training Unit, UAP/UNM

Figure 2

Internal Self Regulatory Functions (Greenspan & Greenspan, 1985; Ashton, 1987; Als et al, 1982)

- Suck/swallow/breathe
- Sleep/wake
- Digestion/elimination
- Modulation
- Temperature
- Respiration
- Orientation to novel stimulation, fright-flight-fight

Purposive System (Granit, 1979)

- Spark, desire, persistence
- Desire to move
- Motivation, intent, "sparkle quotient"
- Drive for interaction

Ability to achieve, maintain, change situation-appropriate arousal states (Williams & Shellenberger, 1992, 1994; Wilbarger & Wilbarger, 1991; Trott et al, 1993)

- Sensory motor diet
- Time
- Fluctuation
- Predictability
- Novelty
- Repetition/practice

Freedom and control of movement (Ayers, 1979; Gilfoyle & Grady, 1990; Oetter et al, 1993; Mears & Harlow, 1975; Kramer & Hinojosa, 1993)

- Body awareness
- Knowledge of body functions
- Motor control
- Sensitivity to movement
- Range of motion
- Motor support

Orientation to stimulus (Luria, 1973; Als, 1983)

- Too little or too much sensory reactivity
- Purpose
- Habituation
- Ability
- Recognition
- Use

Discrimination (Ayers, 1979; Salapatek & Cohen, 1987; Eilers & Gavin, 1980)

- Sensory response of protection/discrimination for use; dangerous/safe; OK/Not OK
- Attaching meaning to input
- Making use of discriminatory abilities

Attention (Trott et al, 1993; Luria, 1973; Williams & Shellenberger, 1992)

- Arousal
- Monitor/vigilant/sustained

Integration of multiple sensory input (Ayers, 1985; Fisher et al, 1991)

- Sensory Integration (integration of information from touch, movement and gravity, taste, smell, vision, hearing)
- Pairing of sensory input
- Using one system to drive another
- Praxis

Efficient adaptive response (Gilfoyle & Grady, 1990; Oetter et al, 1993)

- Personal definition of efficient and adaptive (a response that works for the individual)
- Using information to plan, implement and monitor responses

Learning sequence (Oetter et al, 1993; Pearce, 1977)

- Comfort/safety - sensory needs/experience/personal definition of comfort/safety, past experience
- Confidence - self esteem, stability of system, experience of success
- Risk taking - "stretch" of abilities, results from confidence
- Competence - personal definition and others

What we think, feel & do

- Spiritual - sense of self, impact on universe, personal mission, values, beliefs
- Emotional - feelings about self, world, and self in world
- Intellectual - cognitive foundations for purpose ("smarts")
- Physical - all body related = physical characteristics (illness, bruises, abuse, size & shape (morphology), strength, gender

Environment and Culture

- Quality of life - happiness, health, comfort and safety
- Membership - (family, community, society) positive interactions, participation
- Personal sense of competence - control issues, performance issues

(Additional references available upon request. Contact Marci Laurel at the Training & Technical Assistance Unit, [505] 272-3000.)

APPLYING THE PERFORMANCE COMPETENCE MODEL

There are several ways to use the discussion examples provided below from the lives of Sarah and Jesse. You can 1) read the first paragraph and go to Figure 2 and explore what factors are interacting to affect performance and competence, or 2) you can read the entire example and refer to Figure 2 as you do so. Find each factor on the chart and look at its position and how it relates to other factors. Keep in mind that the information provided here only partially explores the implications presented for both Sarah and Jesse.

Discussion Example #1

Sarah is in the tenth grade. During the first six months of school she has grown 6 inches. Her grades (As and Bs) have dropped drastically. She feels uncomfortable, tired, irritable and fearful. She doesn't know what is going on and her teachers are complaining. Her family has rallied to support her, as many of them (all very tall people), have experienced the same rapid growth in their pasts.

It may well be that the first information that led to questioning how things were going for Sarah came from the observable area of intellectual functioning (academic performance). Her grades had dropped and the teachers were concerned. Since her academic performance had always been fine, we look to the other areas of observable performance - physical, emotional and spiritual - and we talk to Sarah and her family. We hope that they have noted the surge in growth. All of the information we find would lead us into underlying factors: we would look at how sudden, rapid growth affects factors like internal self regulatory functions, purposive system, ability to achieve, change and maintain appropriate states of arousal. We see that all of these areas are affected and we then realize there are likely effects in attention and integration of multiple sensory input. All of these, in turn, will then affect the learning cycle. Sarah is feeling uncomfortable (maybe unsafe). She feels a lack of confidence and probably has reduced her risk-taking (new learning). A feed-forward, feedback loop is being created, where the developmental learning sequence is not working effectively, resulting in poor academic performance; the poor performance results in lack of confidence, which then feeds back into the developmental learning sequence. This is further complicated by disturbances in the underlying factors that support performance.

Sarah is also experiencing a decrease in her quality of life and personal sense of competence. Fortunately, her family (membership, quality of life) has rallied to support her. They have shared their own experiences and have let her know this time will pass. It is their support that finally helps Sarah recover from this major event, and (after growth has stabilized) reestablish her successful learning sequences and maintain her emotional and spiritual self. This information also helped Sarah's teachers understand her performance difficulties, so that they could provide support, concentrating on Sarah's positive attributes and her quality of life, membership and personal sense of competence. The school personnel rearranged her schedule so that the more difficult subjects were in the morning. They scheduled PE right after lunch time so that she would have a chance to re-charge, and they worked to provide support, following Sarah's lead.

Discussion Example # 2

Jesse is 18 months old. At 8 months he suffered a life threatening case of meningitis, followed by seizures. He now has serious motor difficulties, and his motor abilities are at approximately the four-month level. He has some difficulty gaining weight and may lose weight during the winter months because of respiratory illness. He eats soft foods and drinks from a bottle. It takes a long time to feed him. He likes music and movement, recognizes family members and tries to look at them as they move around the room, making noises to indicate anger, annoyance, pleasure, and need for attention. He tries to reach and play with toys using his right hand when he is lying on his left side. When held in a supported position, he holds and plays with toys. He laughs at his parents' "teasing" play and loves to roughhouse with his father. He is very alert for most hours of the day with one 2-hour nap around 1:00 PM. His mother describes him as a happy and easy child. His parents are very worried about his not being able to play or express himself.

While issues are immediately observable in the physical and intellectual areas, it is the quality of life, membership and personal sense of competence factors that appear to be most critical. There is a discrepancy between his motor abilities and his intellectual abilities. The effect of this gap is a decrease in his quality of life, membership and personal sense of competence. This broad area is the "yardstick" for looking at our interventions; and, in this case, this is the area where we want to focus our attention. If we look at the underlying factors, we see some immediate concerns and several powerful strengths. His strengths are his purposive system and his ability to maintain a situation-appropriate level of arousal. Serious concerns exist in the areas of freedom and control of movement, orientation to stimulus, attention(selective) and integration of multiple sensory input.

These areas, particularly freedom and control of movement, are interfering with his ability to make efficient adaptive responses and move through the developmental learning sequence. He is frustrated in his efforts to show his understanding of the world (intellectual) and to interact with the world (physical, emotional, intellectual, membership, personal sense of competence and quality of life). Some of the issues that we need to deal with are his respiratory system, weight gain, and freedom and control of movement. Increased independent movement patterns should have positive effects on respiration and weight gain, as well as on the other areas of concern. The early intervention team needs to provide

intense OT/PT services aimed at increasing strength, functional movement and movement transitions. At the same time, adults need to learn options for positioning and handling to assist Jesse in his interactions. Adaptive devices (switches on toys, chair for feeding) should be explored. Most important, efforts should be focused on: 1) improving Jesse's opportunities for membership, both with other children and in family activities; 2) increasing his personal sense of competence by giving him more control over movement, choices and activities, and 3) a higher quality of life through improved health.

The issues for Jesse are many (communication, motor, play, etc.), and the discussion could go on at great length. What is important to realize is that in many programming discussions, planning for Jesse might have resulted in professionals developing several specific goals in the areas of gross and fine motor, speech, language development and oral motor functioning (eating). Through shared windows and a common framework, intervention is focused on how to improve his quality of life, membership and personal sense of competence. While we work on motor development and other areas, we will be using (with Jesse's help) these areas (quality of life, membership and a personal sense of competence) to assess the effectiveness of our efforts.

Appendix B

Community Maps

LIFE AT NEW VISTAS:
A SUMMARY OF THE DATA GATHERING PROCESS AND DESCRIPTION OF DATA CONTENT

The TIE staff collected data about the New Vistas Early Childhood Intervention Program in order to provide the home-based early intervention team with information that describes:

1. the team's culture;
2. the way parents using New Vistas' services view New Vistas' services and other services in the community;
3. the perceptions agencies in the community have of New Vistas and how these agencies feel about their interactions with New Vistas' staff.

Both TIE and New Vistas envisioned these descriptive data being used to enhance the team's effectiveness in working together as a team and to assist the team in providing better services to families and in creating more effective interactions with agencies in the community.

The TIE workscope indicates that the majority of these data will be presented through "community maps" (see attached). A community map is a "picture" of a micro-system of relationships that are key to the functions and goals of a designated member of a particular community. In this case, New Vistas and the families it serves are the designated members of the local Santa Fe community that serves children with special needs and their families. TIE staff chose to design community maps in order to have visual images of how this particular community is working or not working to support the goals and functions of New Vistas and its families. The purpose of the community maps is to provide information to New Vistas that will allow its staff to develop an action plan for networking and changing relationships within the community. The ultimate goal is to positively impact services to families. The three community maps designed by TIE staff provide New Vistas with a visual picture of the types of interactions they have with a variety of agencies and how these interactions are viewed by their own staff, by the parents they serve, and by the agencies themselves. Data for the community maps were collected from several sources: families served by New Vistas, agency representatives that have interactions with New Vistas, and New Vistas staff. A description of the data collection process for the maps follows.

Data Collection Process for the Community Maps

1. New Vista Staff Data Collection Process

The first thing TIE staff did was to interview the New Vista home-based team about all the agencies with whom they interact. An initial interview schedule was designed by the TIE Community/Team Specialist, edited by staff (including a research consultant) and administered by two TIE staff on December 22, 1990. New Vista staff members were asked to name and describe each agency with whom they have had interactions. This included descriptions of both positive and negative interactions, how they evaluate the agency's services to parents, and where they want to see improvements with

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each agency. The interview was transcribed, and from the transcription a list of all the agencies was made. New Vista staff named approximately 50 national, state, and local agencies with whom they have interactions. The content of this interview formed the data base for the community map entitled "New Vistas' Perceptions of Community Services". (It is important to note that other data not pertinent to the community map were collected from staff interviews, through observations of staff meetings, and questionnaires. See "Summary of Staff Data on pp. 13-21.

2. Agency Data Collection Process

Because of the large number of agencies identified by New Vista staff, it was impossible for TIE staff to interview representatives from all of the agencies. Instead, the coordinator of the Early Intervention Program was asked to identify the agencies she believed TIE staff should contact. A letter listing the agencies she had chosen was then sent to her with a request for a contact person, address, and phone number for each agency. Each agency contact received a letter describing Project TIE and asking for a telephone interview. Two members of the TIE staff contacted all agency persons, arranged for telephone interviews, and conducted these interviews. The interviews lasted approximately 30 minutes and were taped with the permission of the person granting the interview. Again, the interview protocol was designed by the TIE community/team specialist and edited by the entire staff, including the research consultant. Agency contacts were asked to describe their interactions with New Vistas (including how they felt about their interactions), the services their agencies provide, and their sources of funding. As data were collected, TIE staff decided that representatives from several agencies not suggested by the New Vistas coordinator also should be interviewed. These agencies were included in the interviewing process, and a total of 18 interviews were completed. The data from one interview was not included in the data analysis because the content was not relevant. After the interviews were transcribed, two TIE staff designed a matrix to summarize and display the data collected from each agency representative. Content from these interviews formed the data base for the community map entitled "Agencies' Perceptions of New Vistas". The data is summarized in the section entitled, Summary of Agencies' Perceptions of Community Services.

3. Family Data Collection Process

Finally, interviews were conducted with 12 mothers whose children were receiving services from New Vistas at the time of the interview. The coordinator of the Early Intervention Program was asked for a list of parents she thought would be willing to participate in an interview with TIE staff about early intervention services they had used since the birth of their child with special needs and their attitudes toward services provided by New Vistas. Each of the 12 mothers she suggested received a letter describing Project TIE and requesting the interview. A form indicating their willingness to participate with space for their signature and date was provided. All of the mothers agreed to be interviewed, and an appointment was arranged by telephone. Two TIE staff interviewed the mothers at New Vistas in a private room. Each interview was taped with the mothers' permission and lasted approximately one hour. The interview protocol was designed by the Community/Team

specialist and was reviewed and edited by TIE staff, including the research consultant. After the interviews were transcribed, TIE staff designed a matrix to summarize and display the data from each interview. This data is summarized in the section of this report entitled Summary of Parent Data (see pp. 4-9). Each mother received a thank-you letter and a small stipend for her participation in the interview with a request to fill out a questionnaire about New Vistas services. Nine of the mothers returned the questionnaire. Content from these interviews formed the data base for the community map entitled "Families' Perceptions of Community Services".

After all of the data from staff, agencies, and parents had been collected, analyzed, and summarized, three members of the TIE staff began designing the community maps. A design consultant and a computer consultant were hired to aid in the design process. The three maps mentioned above were constructed, one to reflect New Vistas' perspective of agencies' services, one to reflect families' perspectives of agencies' services, and one to reflect agencies' perspectives of their interactions with New Vistas.

The following sections of this report provide written summaries of the data collected from parents using New Vistas services, New Vistas' staff, and representatives of agencies interacting with New Vistas' staff. As has been mentioned, some of these data were used to create the 3 community maps, while other data describe the New Vistas' team culture and its services to families.

Summary of Agencies' Perceptions of New Vistas and Their Interactions with New Vistas

Data from taped telephone interviews with representatives from 18 agencies who have interactions with New Vistas revealed that these agencies are generally impressed with the services New Vistas provides to families and satisfied with their past interactions with New Vistas. Because responses were overwhelmingly positive, interviewers examined the following reasons for possible positive bias:

1. Maybe agencies had no negative criticisms.
2. Most agency representatives didn't know the interviewers.
3. Telephone interviews block face-to-face interchange; this can create a lack of trust.
4. Some agency representatives could have been fearful that critical statements would affect their working relationship with New Vistas.

The fact that most agency representatives didn't know the interviewers, and therefore didn't know if they could trust them, seems at least a good partial explanation because suggestions for improved relationships, while not particularly critical, tended to come from people who knew the interviewers.

While all of the agencies have enjoyed their past interactions with New Vistas, 8 could see the potential for more interactions and/or different kinds of interactions than have occurred in the

past. For example, the representative from the Center of Audiology indicated she would like to be included in staffing of children who are suspected of having a hearing loss. The Las Cumbres representative would like to share staff and tap each others' expertise, while the La Familia representative wants New Vistas to do an inservice for La Familia staff. The PIE representative would like to create a joint team where New Vistas does the assessment with PIE filling in the information New Vistas staff doesn't have. She would also like more frequent meetings in relation to referrals.

Agency representatives had very few criticisms of past interactions with New Vistas or of their services. However, there were some questions and suggestions. The PIE representative suggested that she isn't sure what kind of information the New Vistas staff give families about their child. The PRO representative indicated that she doesn't always understand New Vistas staff areas of responsibility, and that clarification of the agency's structure would be helpful for outsiders. The Las Cumbres representative would like for New Vistas and Las Cumbres to discuss geographic boundaries for the two agencies in order to lessen competition. Finally, several agency representatives stated that they wish New Vistas had more funding so they could take more children and provide more services to families.

Summary of Parent Data

1. Parents' Evaluations of New Vistas' Services

Approximately 55 children and their families are receiving early intervention services from New Vistas. Two kinds of data were collected to evaluate parents' perceptions of New Vistas' services: content from the interviews and information from the questionnaire. The interview data provided the following information about New Vistas' services.

All of the mothers gave positive responses when asked if they liked their relationships with New Vistas. At least half of the mothers mentioned staff responsiveness and networking as the major strengths of New Vistas. Staff has provided information to these families about SSI and the DD waivers, CMS, respite care, PRO services, and the Autism Project. One mother mentioned that staff had intervened with Child Protective Services and had found transportation for her. A few mothers mentioned that they like the center-based program, the low cost of New Vistas services, and the Mothers' Day Out program. Two mothers also mentioned the good therapy their child is receiving.

Mothers had very few criticisms of the services they have received. However, some of the information from their interviews might suggest hints for New Vistas staff about how they could improve their services to families.

a. Three mothers mentioned that their children's need for therapy is not being met at New Vistas. Though one of the mothers did not seem concerned about this, the other two expressed a desire for New Vistas to provide therapeutic services.

b. Several mothers indicated concerns with networking between New Vistas and other agencies. One mother said New Vistas had not had any interactions with her child's speech pathologist; another indicated there does not seem to be any interaction with the Medically Fragile Children's Program; another stated that CMS had not told their family about New Vistas services. She thinks this might indicate that New Vistas staff needs to search for more ways for families to know about New Vistas' services. Finally, two mothers expressed a desire to continue their connections with New Vistas after their child's transition into the public schools because they are concerned that the public school system does not provide parent support.

c. One mother expressed a desire for more Mothers' Days Out.

d. Another mother indicated staff does not seem to have much information about autism.

e. One mother mentioned the desire for a parent support group where the emphasis would be on sharing among parents and not on attending a lecture.

The second source of information regarding New Vistas' services is data collected from a questionnaire filled out by 9 of the mothers who were interviewed. The questionnaire, entitled "A Report from Families: Family Reactions to Early Intervention Services", was developed by Dr. P.J. McWilliam at the University of North Carolina and revised by the TIE staff. The parent filling out the questionnaire is asked to rate, on a 5-point scale, practices that an early intervention program might do to involve families in decision-making about their children with special needs. The parent is also asked to rate the degree of importance of each practice. The instrument lists practices in five areas: entering the program, annual assessments, developing and writing intervention plans, services provided in a home-based program, and services provided in a classroom-based program.

An analysis of the data from the questionnaire prepared by the research consultant revealed that the nine mothers believe New Vistas is engaged in practices that are sensitive to concerns families have. However, there are specific areas where responses indicate that New Vistas might be able to improve family involvement. Parents consider all of these areas either "important", "very important", or "critical". The areas mentioned for improvement include the following:

a. When entering the program, families do not always know why questions are asked or how the information will be used.

b. Families do not always receive information about useful services available in the community.

c. Some families have mixed feelings about their child's

assessments. They are not always comfortable and are sometimes concerned about practices related to families' participation in the assessment process.

d. Some families would like more help in figuring out how to get other things done for their family.

There is not enough input from these 12 interviews with parents and the nine questionnaires to know for certain how prevalent the above concerns are. However, New Vistas staff might consider having a meeting to discuss these concerns with each other to see whether they have heard similar concerns expressed as they have talked to other parents. This type of staff collaboration might result in the discovery of several parental priorities which New Vistas staff could address.

2. Parents' Evaluations of Other Agencies in the Community

Data for the family perspectives of agency services was collected in the same 12 interviews that are described above. The mothers did not mention all of the agencies with whom New Vistas staff interact because these 12 families have not used all of the agencies. Many of the agencies were evaluated by only one or two mothers, so there is not enough information to form definitive statements about these agencies' services. However, the mothers' information may direct New Vistas staff to potential problem areas or concerns with some of these agencies.

The mothers who were interviewed talked about the three hospitals: UNMH, Presbyterian, and St. Vincent's. They gave more favorable opinions about UNM hospital (UNMH) and Presbyterian Hospital in Albuquerque than they did about St. Vincent's Hospital in Santa Fe. Of the seven mothers who talked about UNMH, six had positive things to say including affirmations of the nursing and doctor staff and how they were directed to needed services as they left the hospital. However,several spoke about social workers who did not help them figure out the financial aid system or give them enough information about either their child's problem or adequate referral services. Of the three mothers who mentioned Presbyterian Hospital, two were pleased with the services, while one thought the nurses were not responsive.

St Vincent's, on the other hand, received some very negative reviews. Of the seven mothers who shared their experiences with St. Vincent's, only two included positive statements in their critique. Those who were dissatisfied mentioned the lack of professionalism among the respiratory therapists, the lack of cleanliness in the hospital, dissatisfaction with the nursing staff (one parent filed a written complaint), lack of adequate medical care for their child, not receiving adequate information, and dissatisfaction with PT services. So many negative responses from the seven families who used St. Vincent's services would seem to indicate that St. Vincent's is clearly not meeting the needs of some families.

Three families out of the 12 have used services at Carrie Tingley Hospital; one mother mentioned the Cerebral Palsy Clinic, one mentioned the orthotics department, and one mentioned using a

private physician at Carrie Tingley. One of the mothers indicated she likes the services but is bothered by the turnover in staff, while another finds the doctor too busy and indicated that her child's PT was dissatisfied with the quality of the orthotic equipment; therefore, they no longer use Carrie Tingley's orthotics department. The mother who used the private physician indicated she was satisfied with the quality of services and personal attention she received from the physician. She also noted she was glad she did not have to use the general clinic services because of the waiting lines and the lack of attention.

One of the services about which we have the most information is the PIE team. Six of the mothers spoke of their child's evaluation, and only one was "really pleased" and found the process "very productive." The other mothers were generally dissatisfied with their experiences. Some of their reasons for dissatisfaction included:

1. the months of waiting in order to receive an evaluation;

2. the difficulties with the setting and how hard the evaluation was on the child;

3. receiving what parents considered inadequate or incorrect information (this included referrals suggested in the session not being in the written report and advice on physical disabilities that parents considered poor);

4. disagreement between PIE staff and the families' physician on the amount of therapy their children needed.

Families' dissatisfaction with PIE evaluations is corroborated in the questionnaire filled out by 9 of the mothers. In the questionnaire, some mothers questioned the accuracy of assessment results and indicated they had not received invitations to meetings concerning their children. These responses seem to indicate that these families perceive problems related to PIE evaluations. However, it is important to point out that this does not mean the problems lie entirely with the PIE staff. Other explanations might be that families expect more than it is possible for such an evaluation to deliver, or that the families have not been adequately prepared for the information the PIE team must deliver in their evaluations. One possibility for making this experience less stressful for families would be for New Vistas staff to spend more time with parents preparing them for the experience. Another possibility would be for New vistas staff to discuss with the PIE staff how to make the evaluation a more constructive experience for both parents and children.

Five mothers mentioned the Santa Fe public schools in their interview. Four of them indicated they are confused about what services their child is eligible to receive and what the public school system will pay for. Three mothers said they would not send their child to Sierra Vista, the pre-school provided by the public school system for children with special needs, because it is not integrated, and the environment is too restrictive. However, these

mothers do not know what the financial implications of sending their child to a private preschool are.

Three mothers spoke about how they felt about PRO. Several mothers mentioned taking PRO's training to become a support parent but did not say how they felt about the training. Two talked about looking forward to becoming a support parent and said that their training had been good, while one mother said that a support mother who came to visit her in the hospital discouraged her from joining a PRO group because all the participants had older children.

Although more information is needed to draw any conclusions about the adequate delivery of services providing financial aid to families with children with special needs, the data collected by TIE staff tends to support the need for improving access to the financial aid system and treatment of parents using these services. Four mothers spoke about the difficulties they had with financial coverage for their child's disability. Three families mentioned S.S.I., and all three were very dissatisfied with the services of the Social Security Office. They viewed it as a "nightmare" type of experience, with caseworkers who can be "incompetent" and/or invasive. Two mothers discussed their experiences with WIC; both were angry about how they were treated. In one instance, a mother reported that she was called dishonest; in another instance, a mother said she was accused of being careless for canceling an appointment simply because her child was in the hospital. Several parents also spoke about how hard it is to figure out the financial aid system--how to get information, how to qualify, how to get on waiting lists, and what to do in the meantime. CMS was mentioned by one mother as a great help in working through their financial needs and getting them into Medicaid. However, another stated that CMS had not referred her to needed services. She was not told about S.S.I., the DD waiver, respite care, or New Vistas services.

The rest of the agencies that the mothers named were mentioned only one or two times. Visiting Nurses was evaluated by two mothers; one was very satisfied, while the other felt she was given mixed information. One mother mentioned using the Public Health Clinic and was satisfied with their services, although because the Clinic relies on written instructions to inform patients, she wondered if people who can't read the written information would find the Clinic useful.

Medically Fragile Children's Program, Las Cumbres Respite Services, the Audiology Center, and Casa de Nino each received one positive response.

Three mothers evaluated oxygen companies; one had used New Mexico Steel and found them "really nice. . .caring." The other two mothers did not name the companies they used. One was in Albuquerque and received a negative evaluation. The other was in Santa Fe and was described as "very helpful."

The Center for Physical Therapy, La Familia, and Child Protective Services each received one negative response. The mother who had used the services of the Center for Physical Therapy indicated that the therapist was unable to work with her child

because, when the child cried, the therapist gave up. The mother who had used La Familia's services was dissatisfied with the information she received, the billing procedures, the care her child received, and her interactions with the staff. Finally, the mother who had to deal with Child Protective Services felt that she had been mistreated by her caseworker.

Again, it is important to note that the critical comments by parents are not necessarily indicative of an inadequate pattern of service delivery to families. These comments perhaps should be investigated by New Vistas to see how many families are dissatisfied with services from these agencies.

Summary of Information Found in the Community Maps

Compilation of interview data from agencies, parents, and New Vistas staff allowed TIE staff to design the three community maps so that the viewer can see where areas of agreement and disagreement occur between parents, agencies, and New Vistas staff. For example, by laying the NV Perceptions of Community Services map and the Agencies' Perceptions of NV map side by side, it is possible to see whether an agency and New Vistas staff agree that they would like to change their present relationship in some way. Or by laying the NV Perceptions of Community Services and Families'Perceptions of Community Services side by side, it is possible to see if parents who have used a particular agency agree with New Vistas staff that parents are receiving adequate services from the agency. The following charts display a summary of the information that was extracted by viewing the community maps side by side.

Agencies and New Vistas were asked if they were satisfied with their present relationships. In response to this question, the following agencies and New Vistas agreed that changing or intensifying their present relationship is appropriate:

La Familia
Visiting Nurses
UNMH
Step Hi

The following agencies and New Vistas agreed that they are satisfied with their present relationship and see no need for change:

CMS
Developmental Disabilities Division
Civitan
Headstart

While New Vistas did not ask for change in their relationships with the following agencies, the agencies did ask for change:

PIE
Audiology Center
PRO
Las Cumbres

On the other hand, the following agencies didn't ask for change, but New Vistas did:

Public Health
St. Vincent's
Santa Fe Prep

When asked whether services to families were adequate, both New Vistas and the mothers interviewed indicated that services from the following agencies were adequate:

MFCP
Public Health
Audiology Center
PRO
Las Cumbres Respite
CMS (one report was mixed from a mother)

New Vistas and parents agree that services for families from the following agencies are not adequate:

Visiting Nurses
St. Vincent's
Public Schools
Private Therapy
WIC
Human Services Child Protective Service
State Case Management Committee
UNMH
Public Schools
SSI
Carrie Tingley

Finally, New Vistas believes services for families from the following agencies are adequate for families while some of the mothers in the interviews indicated they were not totally satisfied with these agencies:

CMS
PIE
La Familia
Private Therapy--Motor

Data Collection Process for Description of Team Culture/Process

Data from the New Vistas staff regarding their team culture and their perspectives about their team process were gathered from several sources in order to "triangulate" the data; that is, look at the data from multiple perspectives.

Instruments

Team members were asked to fill out the following instruments:

1. Team Development Scale developed by William G. Dyer. This instrument has eleven questions, each rated on a 5-point scale, to measure overall team effectiveness on such issues as member safety, freedom of expression, clarity of goals, task orientation, ability to handle conflict, and how the leader is viewed.

2. Team Effectiveness Rating Scale developed by R. Neugebauer, revised by the Training & Technical Assistance Unit, UNM. This instrument has 10 questions, each rated on a 5-point scale, to measure the team effectiveness at a particular team meeting on such issues as clarity of goals, level of cohesion, handling conflict, decision-making, participation, and evaluation.

3. FOCAS: Family Orientation of Community and Agency Services developed by Don Bailey at the Frank Porter Graham Child Development Center, UNC. This is a 12 item 9 point scale designed to measure the perceptions of staff about how families are included in an early intervention program and how staff would like them to be included in the future. It looks at such issues as developing a program philosophy, parent participation in planning and execution of a child assessment, identifying family needs and strengths, parent participation in team meetings, the role of families in developing an IFSP, and case management.

4. The Learning-Style Inventory by David A. Kolb. This inventory describes the way a person learns. There are 12 sentences, each with a choice of 4 endings that are ranked 1 to 4 according to how the person perceives s/he learns. The totalled scores are plotted on a Learning-Style Type grid with four quadrants. Each quadrant defines a primary learning-style: accommodator, diverger, converger, and assimilator.

5. The Team Player Survey by Glenn M. Parker. This self assessment instrument is designed to help the team member identify his/her style as a team player. It may also be used by a team to assess its the team's strengths and weaknesses. The team member is asked to complete 18 sentences by ranking the four possible endings that are provided as they apply to the team member. The results are entered on a scoring sheet under 4 columns: contributor, collaborator, communicator, and challenger. The column receiving the highest scores describes the primary style used by the team member.

Observations

1. TIE staff observed and video taped 2 staffings and observed a staffing that was not taped. The taped staffings were reviewed and analyzed relative to individual participation, how the group handled conflict, the style of the leader, and perceived level of comfort of team members.

2. TIE staff observed and mapped the New Vistas facilities and equipment to discover what the setting revealed about the values of the staff.

Review of Written Information

TIE staff reviewed program literature, forms and products including New Vistas' mission statement, their philosophy statement, and the parents' information packet to glean another perspective from which to analyze team values and philosophy.

Interviews

Finally, each of the five persons on the home-based team was interviewed individually and asked to describe the services at New Vistas, their individual goals in their job at New Vistas, the skills represented on the team, skills they would like to have on the team, and what their desired areas of self-improvement are. They were also asked to describe the team process, and what the team needs to function more actively. Finally, they were asked what parents need that New Vistas is not providing.

A total of six interviews were completed (including 2 interviews with the director and 1 interview a piece with each of the other 4 team members); data from the interviews were analyzed and are presented below in tables by topics. The tables include the number of staff responses each comment received. However, these comments were spontaneously generated, and the number of responses that each comment received does not necessarily imply that staff, as a whole, would prioritize their comments in the same way that they are listed.

Summary of Staff Data

Data Collected from Staff Interviews

The following table displays data received from New Vistas' staff when they were asked what were New Vistas' most important goals.

TABLE 1. Staff's Views of New Vistas Most Important Goals

Comments	Number of Responses
1. support to parents by: a. sharing information about services b. increasing self esteem c. giving information on child development d. validating their concerns	*8
2. support members on the team	1
3. facilitate development of children	1
4. collect data on experience of families with preterm infants	1

*There are more than five responses because each person interviewed could mention more than one way to support parents.

When the staff were asked what services New Vistas provides and what services they would like New Vistas to provide, they gave the following comments:

TABLE 2. Staff's Perceptions of Services New Vistas Provides

Comments	Number of Responses
1. support to families including support groups	5
2. information about development of child	3
3. developmental intervention including evaluation/assessment	3
4. information about services to families	2

TABLE 3. What Staff Would Like to See New Vistas Provide

Comments	Number of Responses
1. therapy services	5
2. more family networking including support groups	3
3. services beyond 3 including regular integrated preschool	2
4. more consultations with private preschools to get children in integrated preschools	1
5. better written information to parents	1

The table below demonstrates New Vistas' staff perceptions of the Early Childhood Program needs.

TABLE 4. New Vistas' Program Needs

Comments	Number of Responses
1. help with staff process including processing feelings about families	3
2. more time to meet	3
3. more space including an observation room with in-wall video camera	1
4. expansion of library	1
5. more Mothers' Day Out days	1
6. more time to go on home visits as a team	1
7. higher salaries/retirement benefits	1
8. video camera (to monitor team process and allow team to teach pre-term intervention services	1

"In the best of all possible worlds", team members would like to have more staff. Following is a list of the kinds of staff members they would like to see added.

TABLE 5. New Vistas' Staffing Needs

Comments	Number of Responses
1. counselor/family therapist/social worker type	4
2. OT/PT	2
3. translator	1
4. doctor as consultant	1
5. grant writer	1
6. more clerical hours	1
7. someone with research skills	1
8. expansion of preterm team	1
9. someone to design program evaluation system	1
10. someone to bill Medicaid for c.m. services	1

Interview questions also elicited information about how the team works together and how they view each others skills. When asked what skills they thought were represented on the team, staff members contributed the following information:

TABLE 6. Members' Evaluation of Skills of Team Members

Comments	Number of Responses
1. Team members are competent in their field.	5
2. Team members are able to learn from each other.	5
3. Team members are flexible and able to do role release.	3
4. Team members are good with families	2
5. Team members have a good sense of humor.	1
6. Team members have good self esteem.	1

When team members were asked how they felt about being on the team and what suggestions they had for improving the team's effectiveness, they responded with the following comments and suggestions:

TABLE 7. Team's Evaluation of Team Process

Team Members' Observations	Number of Responses
1. Everyone feels pretty comfortable to very comfortable in team meetings.	5
2. Team membership is nonthreatening and nonjudgmental. It is easy to say "I screwed up."	4
3. Some members experience well balanced sharing in team meetings, while others indicate that some members talk more than other members.	4
4. There is no conflict, just different ways of viewing things.	1
5. The team is good at evaluations.	1
6. Everyone who mentioned the leader had positive things to say including she doesn't have an agenda, she is a good mediator between staff and state regulations, and she has good organizational skills.	1

TABLE 8. Concrete Suggestions for Improving the Team Process

Team Members' Observations	Number of Responses
1. The team meetings need to be more functional. Team members sometimes need more focus in meetings.	4
2. Team needs more time to meet including prep time before assessments.	3
3. Leadership of team meetings is not always clear, especially when Magi isn't there.	3
4. Three members sometimes do not share their opinions/feelings because they aren't sure of their knowledge base and/or how to present it.	3
5. The team needs team building activities including styles of interaction/personal styles and conflict management.	1

The following list displays responses received when each person was asked to describe her skills and what skills she would like to develop or improve.

Skills Each Person Has and Skills Each Person Would Like

MAGI

Has:
1. Organization and direction
2. Support for staff
3. Interpretive skills with parents

Would like:
1. Additional assessment skills
2. Understanding Part H

RUTH

Has:
1. Twenty-year history in nursing preemies
2. Understanding of system
3. Connections with many people in the field

Would like:
1. More interviewing skills
2. Organizational skills
3. Keeping up with technological advancements
4. Expand knowledge on developmental issues

SUSAN

Has:
1. Experience as parent of child with special needs
2. Empathetic and supportive skills toward parents

Would like:
1. More knowledge about system and how to help families connect to needed services--interagency meetings to share what services are available
2. Developmental knowledge
3. Assertiveness in sharing

DENA

Has:
1. Listener/negotiator
2. Good O.T. competencies

Would like:
1. More interviewing/counseling skills
2. Hearing/visual impairments information
3. Congenital abnormalities information
4. More skills in providing information to parents

KATHLEEN

Has:
1. Good at overview--can see what might be missing in assessments
2. Expertise with speech/lang. issues

Would like:
1. More medical knowledge
2. More skills in counseling with parents
3. Developmental information

More than one team member would like to develop or improve the following skills:

1. Developmental information
2. Skills in interviewing/counseling parents
3. Medical information.

Data Collected from Instruments

The instruments that were completed by New Vistas' staff also provided information about how staff view their participation on the team, how they feel about the team's effectiveness, how family-centered they believe their program is, and what kinds of learning styles and team player styles each individual brings to the team.

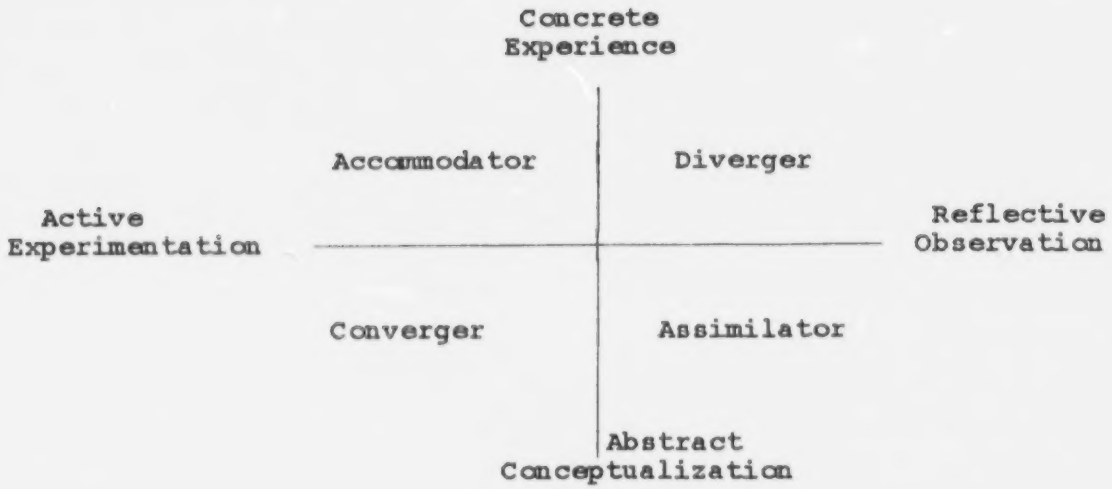
The TIE research consultant compiled descriptive statistics (including means and frequency distributions) for the Team Development Scale, the Team Effectiveness Rating Scale, and the FOCAS Scale. Data are comparable for mean or modal responses.

Results from the Team Development Scale and the Team Effectiveness Rating Scale provided very little information concerning team members' evaluations of how the team could improve its effectiveness. Team members rated the team's effectiveness in a specific team meeting chosen for evaluation as high as the 5-point Team Effectiveness Scale would allow. The Team Development Scale results also indicate that team members feel the team generally is very effective. All but four items out of 11 were rated as high as the 5-point scale allowed. These 4 items were rated 1 point below the highest rating indicating a slight need for improvement. The four items included: 1) how well the team's goals are understood and how meaningful they are to team members; 2) how well the team works at its tasks; 3) how well conflicts are handled; and 4) how much team meeting time is spent on personal sharing.

Reasons for such high ratings on these two scales could include: 1) the team being in the initial "forming" stage of development which prohibits members from seeing some of the future problem areas, or 2) at the time the instrument was filled out, members didn't really understand the subtleties of the concepts the instrument was attempting to measure.

Results from the FOCAS Scale, which measured the degree to which staff members perceive the New Vistas' program to be family-centered, revealed possible areas of desired improvement on 4 of the 12 items: 1) the degree to which the community has a well-integrated, cooperative system of early intervention services; 2) the degree to which parents participate in decisions about the child's assessment process; 3) the degree to which parents participate in child assessments; and 4) the degree to which parents participate in team meetings.

The Learning Style Inventory revealed some interesting information about the team. In order to understand the information from the inventory, the reader must imagine two intersecting lines that form four quadrants:



Analysis of the 5 team members' Learning Style Inventory instruments revealed that four of the members are in the "diverger" quadrant. This indicates that they are most comfortable in learning situations that provide an opportunity for concrete experience and reflective observation, and that they do not rely very much on active experimentation and abstract conceptualization when they are in a learning situation. One team member is in the "accommodator" quadrant indicating that she is comfortable in learning situations that provide concrete experience and active experimentation. She does not rely very much on reflective observation or abstract conceptualization. The team has no "assimilators" (those who are most comfortable with reflective observation and abstract conceptualization) or "convergers" (those who are most comfortable with abstract conceptualization and active experimentation). According to the inventory results, none of the team members relies heavily on abstract conceptualization in her learning process.

The Team Player Survey data indicates that three of the team members are primarily "communicators." According to the survey's descriptors, these persons are process oriented and are effective listeners and facilitators. One of the "communicators" is almost as comfortable being a "collaborator." "Collaborators" are goal-directed. The vision of the team is paramount to them, but they are flexible and open to new ideas. The other two members of the team are "contributors." The "contributor" is described as a task oriented person with good technical information. She pushes the team to perform well. None of the team members is comfortable in the role of "challenger." The "challenger" questions team decisions, is willing to disagree, and encourages risk-taking.

Data Collected from Written Documents

Both the New Vistas mission statement and the philosophy statement reveal a strong family-centered focus, a commitment to networking with other service providers in the community, and a play-centered intervention philosophy. Data gathered from the FOCAS instrument corroborated the commitment to families and to networking. During interviews with both staff and some of the

mothers it was apparent to interviewers that the mission statement and philosophy statement are living documents to which New Vistas staff are committed. They actively work on being family-centered and on networking with agencies and families. However, it should be noted that in the interviews a few mothers mentioned that New Vistas staff sometimes had not facilitated networking between them and agencies.

The parents' information packet also reflects New Vistas staff's commitment to families. It avoids professional jargon, and pages are formatted to make reading easy. In the packet, parents are informed that they are a vital part of the team, and the process they will go through with their child at New Vistas is clearly described.

Data Collected from Observations

Walking through the space at New Vistas and mapping it, TIE staff again saw the importance of families to the New Vistas staff. Pictures of children and their families are on a large bulletin board, and parents are free to roam about. This includes visiting the classroom and staying with their children if they choose to do so. Mapping the classroom, TIE staff discovered that the play-centered intervention philosophy is put into practice. They have a pretend play area which staff reported is changed regularly, and there are numerous pieces of sensorimotor equipment encouraging the children to play. However, there is a noticeable absence of attention to other aspects of the children's development.

Observing three staff meetings, TIE staff again heard how important being family-centered is to the New Vistas staff. In one team meeting, staff considered how to restructure their program to accommodate a single parent who has no family support structure. She spends most of her day at the center with an older child who is not enrolled in the classroom, but who roams in and out of the classroom significantly disrupting classroom activity. Rather than focusing the discussion on what was best for the staff, the program, or the children, staff focused on what would be best for the mother.

Observations of staff meetings also caused TIE staff to question New Vistas team members' willingness to challenge one anothers' perceptions and confront conflicting perspectives. Team members appeared to like one another very much and supported on another throughout the meetings. They especially seemed to want to hear the nurse's medical expertise and did not seem to notice or be bothered by her talking more than other team members.

Summary

In summary, TIE staff concluded that the New Vistas team is highly motivated to act upon its mission statement:

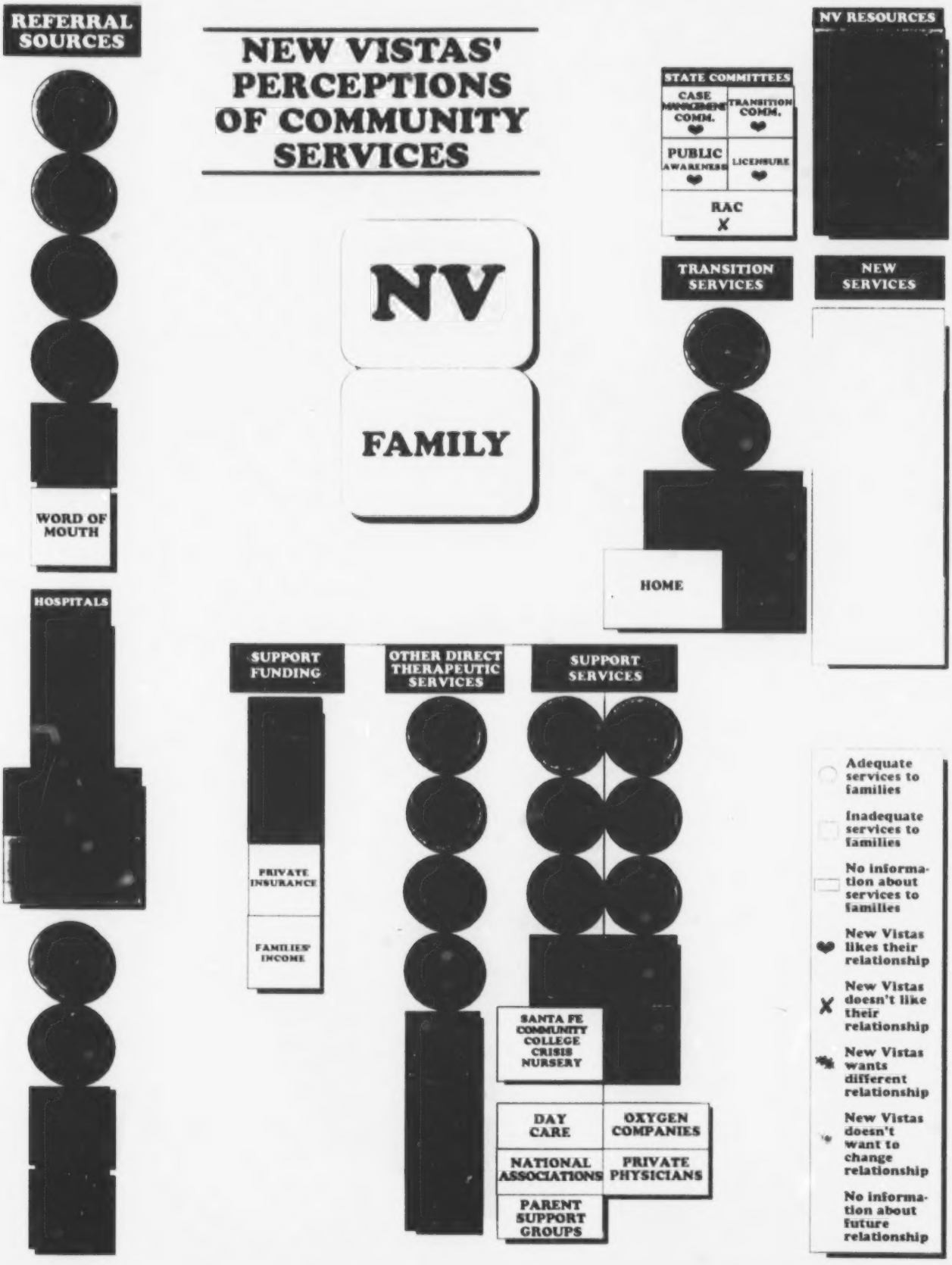
1. The team has a family-centered focus.

2. The team demonstrates a commitment to early intervention that emphasizes play and adapts to the family's lifestyle.

3. The team actively engages in networking with other agencies in the community in order to provide adequate services to families.

Finally, team members highly value supporting each other as well as the families they serve. In an all-day workshop with the team in which TIE staff discussed the data they had gathered, TIE staff suggested to the team that "support" seemed to mean agreeing with each other's and families' perspectives rather than confronting one another and working through conflicting ideas. New Vistas staff disagreed with this perception; however, TIE staff believe that remarks made by some staff members in interviews as well as observations of staff meetings point to the possibility that this observation may be at least partially true, and that staff find it difficult to examine this issue.

NEW VISTAS' PERCEPTIONS OF COMMUNITY SERVICES



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Graphic Designer: Nanette Potis

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FAMILIES' PERCEPTIONS OF COMMUNITY SERVICES

REFERRAL SOURCES

- CMS (o o +)
- PIE (- - - - o +)
- PUBLIC HEALTH (+)
- LA FAMILIA (-)
- VISITING NURSES (+ + o)
- WORD OF MOUTH

HOSPITALS

- UNMH (o o o o +)
- SPECIAL BABY CLINIC (-)
- ST. VINCENTS (- - - - - +)
- PRESBYTERIAN (+ + -)
- INDIAN HOSPITAL
- MFCP (+)
- STEP HI
- PRIVATE PHYSICIAN
- PUBLIC SCHOOLS (? ? ? ? ? o)
- SIERRA VISTA (- - -)

STATE COMMITTEES

- CASE MANAGEMENT COMM. (-)
- TRANSITION COMM. (+)
- PUBLIC AWARENESS
- LICENSURE
- RAC

TRANSITION SERVICES

- HEAD START
- PRIVATE THERAPY
- PRIVATE PRE-SCHOOLS
- TEMPLE (-)
- PUBLIC SCHOOLS (? ? ? ? ? o)

NEW SERVICES

SUPPORT FUNDING

- COUNTY SOCIAL SUPPORT DIVISION
- MFCP WAIVER (+)
- SOCIAL SECURITY OFFICE SSI (- -)
- PRIVATE INSURANCE
- FAMILIES' INCOME

OTHER DIRECT THERAPEUTIC SERVICES

- AUDIOLOGY CENTER (+)
- MFCP (+)
- PRIVATE THERAPY
- CENTER FOR PHYSICAL THER. (-)
- STEP HI
- CARRIE TINGLEY (o o +)
- VISITING NURSES (o + +)

SUPPORT SERVICES

PRO (+ + ?)	LAS CUMBRES RESPITE (+)
PUBLIC HEALTH (+)	CMS (o + +)
LA FAMILIA (-)	MFCP (+)
HUMAN SERV. CHILD PROT. SERV. (-)	WIC (- -)
S.F. COMM. COLLEGE CRISIS NURSERY	SPECIAL BABY CLINIC (-)
DAY CARE	OXYGEN COMPANIES
NATIONAL DOWNS SYN. CONGRESS (+)	PRIVATE PHYSICIANS
PARENT SUPPORT GROUPS	

Parent Reaction

- \+ Satisfied with services
- \- Dissatisfied with services
- o Mixture of satisfaction & dissatisfaction
- ? Don't know about services
- No data from parents

Each symbol within the parenthesises represents one parental reaction.

This information was gathered through a limited number of interviews for a specific purpose and should not be construed as representative of all New Vistas parents' perceptions.

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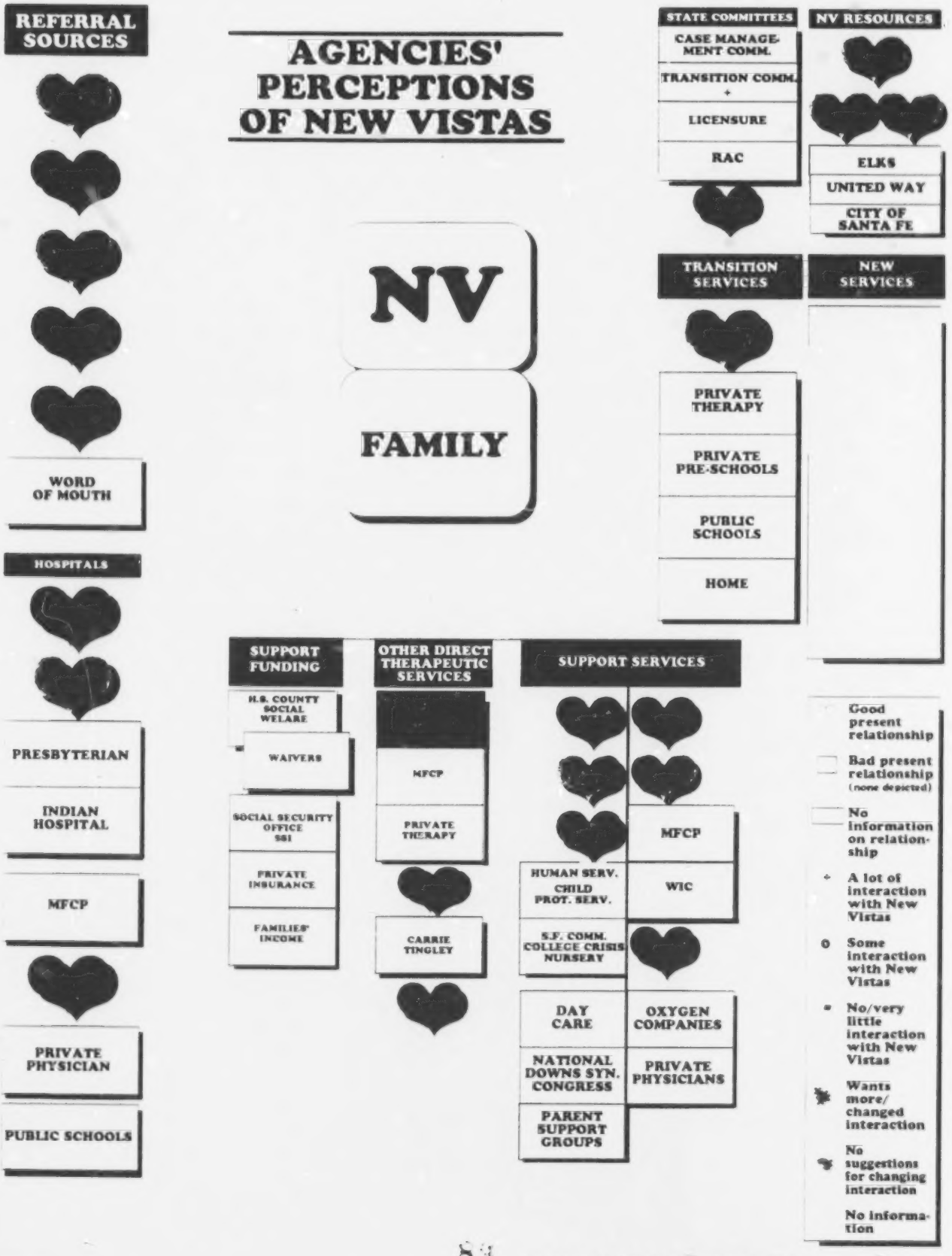
AGENCIES' PERCEPTIONS OF NEW VISTAS



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Appendix C

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Appendix D

Competency Exams from Year 1 & Year 2

For questions #1-9 indicate next to each when the condition is most likely to occur:

a. a prenatal issue related to development,

b. a perinatal issue related to development, or

c. a postnatal issue related to development.

1. _____ meningitis
2. _____ Down syndrome
3. _____ lead poisoning
4. _____ inborn error of metabolism
5. _____ hyperbilirubinemia (jaundice)
6. _____ cytomegalovirus
7. _____ FAS
8. _____ trauma
9. _____ intraventricular hemorrhage

10. Best practice in early intervention currently views families as:

    a. teacher/therapist for their child in implementing programs designed by professionals

    b. case managers for their children

    c. voluntary consumers who choose their level of involvement

    d. assessment specialists

11. Ms. Garcia is a new speech-pathologist at an early intervention program in Gallup, where a large number of the students are Navajo. She has been told that although the children hear their grandparents speaking Navajo at home, their parents speak to them in English. Although the children reportedly understand some Navajo, they do not speak it. She brings the children individually to her room. So far she has tried to test four children using a picture vocabulary test. All the children have to do is point to the pictures. The children refuse to look at her as she gives the instructions and they have not pointed to any of the pictures. Which of the following best explains this behavior?

    a. the children are afraid of an unfamiliar Hispanic teacher

    b. the children don't really speak English

    c. the children will only respond when other children are around

    d. it would be rude for the children to look an older person in the eyes and answer a question to which the adult knows the answer

12. What is meant by the term anticipatory guidance? (Circle the correct response.)

    a. a counseling session with skilled clinical psychologists

    b. information provided to assist in the prevention or amelioration of an at-risk condition

    c. genetic counseling

13. Mr. Smith has recently moved to New Mexico from the East Coast and has taken a job as an audiologist. In the East he had considerable experience working with families of young children with hearing impairments. He attempts to establish a program for families with such children in New Mexico. He arranges to interview families to learn more about their child and family needs. He has many families to interview, so he feels pressure to hurry through the interviews. After five interviews, he becomes discouraged about the possibility of being able to work with these families. They are not answering his questions and joining him in the conversation; he finds himself doing all the talking. He concludes that the parents are not concerned about their children and that they don't really understand their children's problems. What would be a better possible explanation for the difficulties he has experienced with the interviews?

    a. Mr. Smith may be talking too quickly and not allowing sufficient pause time for the families to feel they can talk

    b. New Mexicans don't like Easterners and Texans

    c. Mr. Smith is asking rude questions

    d. the families don't view hearing loss as a serious problem

14. Which of the following are common causes of miscommunication between parents and professionals?

    a. professionals ask many questions to clarify what information parents are seeking

    b. parents may feel "insecure" in their interactions with professionals

    c. professionals may feel "insecure" in their interactions with parents;.

    d. b & c

    e. all of the above

This section of the test provides you with the opportunity to apply your knowledge to a "real-life" situation. First, read the case study; then, answer the questions that follow. (All are based on the case study).

PRE/POST TEST CASE STUDY

When Joan was born with obvious low muscle tone, specialists were sought for a diagnosis and remediation. The diagnosis was Amyotonia Congenita, a rare progressive muscle disease which is usually terminal well before the age of three. Both sets of grandparents felt strongly that the infant should be placed in an institution so that the parents could "get on with their lives." The option of institutionalization or nursing home placement was discussed with the parents by the medical staff.

"Joan" stayed in the hospital as the medical professionals felt she was too medically fragile to be cared for at home. She was gavage fed throughout this time. The parents were not encouraged to spend time in the hospital with Joan, nor to learn about how to care for her. They felt uncomfortable in the intensive care unit and with little support from either the hospital staff or their families they did not even hold Joan until she was a few months old.

When Joan was 8 months old, John (father) made a decision, without Ann's (mother) or the grandparent's knowledge, to insist that Joan be released from the hospital. Within 48 hours, John, Ann and Joan were on their way to Philadelphia for another opinion.

In Philadelphia, a team of professionals examined Joan and gave essentially the same grim prognosis. They said her musculature would continue to deteriorate and she would probably succumb to pneumonia within the following year or two. There were no known children who had survived this diagnosis past the age of three. The Markwells returned home with information about how to care for Joan and prepared to love and enjoy their child for as long as they could.

Essentially Joan (at 8 months) is currently:

1 Babbling very softly
2 Responding to Mom's "Faces"
3 Reaching for desired objects
4 Bunny hopping (slowly and for short distances on knees & forearms)
5 Rolling short distances
6 Experiencing lots of respiratory problems
7 Experiencing less than normal range of motion in her elbows, hips, & knees
8 Taking a long time to eat very small bites of baby food
9 Having trouble taking formula from a bottle
10 Sleeping too much and this is worrying the parents
11 Social, charming and loves physical contact
12 Tiring very quickly during motor activity
13 Very demanding regarding her desire for interaction with objects and people
14 Using her eyes and hands almost normally

15. Which of the following <u>is not</u> a concern regarding sensory function:

    a. difficulty figuring out how to move

    b. under or over responsivity

    c. hard to cuddle/handle/console

    d. decreased range of motion

16. As a result of demographic changes occurring in the United States:

    a. 1/3 of the population of the United States will be from traditional minority groups in eight years

    b. 38% of the New Mexican population is currently from traditional minority groups

    c. the percentage of Hispanics, African-Americans, and Native Americans entering professional careers is increasing more than the percentage of Anglos

    d. fewer people are speaking a second language

17. What is the prime determinant of our communication patterns?

    a. the people we are talking to

    b. our cultural values and belief systems

    c. the grammar of the language we are speaking

    d. the setting in which we are talking

18. You are attempting to be very accepting of culturally/racially diverse groups. How might you best express this attitude?

    a. All people are the same under the skin.

    b. We have all had different experiences, so we are all different.

    c. We all have similarities; we all have differences; there are some behaviors, values, and beliefs we share with some people and not with others.

    d. If we speak the same language, we are more alike than different.

19. Which of the following <u>is not</u> a concern regarding motor function:

    a. weakness

    b. poor reach, grasp, eye hand control

    c. clumsiness

    d. w-sits sometimes

20. Ann and John might participate as members in teams comprised of the following individuals:

    a. Specialists at the hospital where Joan was born + Ann and John

    b. Ann and John

    c. Ann and John and their parents

    d. Hospital staff (ICU) + Ann and John

    e. Ann and John + team of professionals in Philadelphia

    f. Joan's pediatrician + Ann and John.

    g. all of the above

    h. a, e and f

    i. b, c, and d

21. Consider Joan's <u>lack of freedom and control of movement</u>; which aspects of communication would be likely to be directly affected? (Circle all that apply.)

    a. Nonverbal communication

    b. Respiratory Support for Speech

    c. Auditory Comprehension

    d. Vocabulary

For the following questions, <u>list the numbers</u> that correspond to Joan's list of current characteristics.

22. Which two items might compromise Joan's "risk taking" to gain competence?

23. Which two items indicate an efficient adaptive response to compromised functions for Joan?

24. List four items on Joan's current list of characteristics represent positive signs for communicative potential?

25. Which three items on Joan's current list of characteristics could indicate potential problems in her speech sound development?

26. In reading the case study of Joan, which items are risk factors for medical complications and may require intervention by health care professionals?

27. On which items would professionals need parental input and support in order to provide quality intervention?

28. Which items on Joan's current list of characteristics represent positive signs for sensorimotor development?

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11. Ms. Garcia is a new speech-pathologist at an early intervention program in Gallup, New Mexico, where a large number of the students are Navajo. She has been told that although the children hear their grandparents speaking Navajo at home, their parents speak to them in English. Although the children reportedly understand some Navajo, they do not speak it. She brings the children individually to her room. So far she has tried to test four children using a picture vocabulary test. All the children have to do is point to the pictures. The children refuse to look at her as she gives the instructions and they have not pointed to any of the pictures. Which of the following best explains this behavior?

a. The children are afraid of an unfamiliar Hispanic teacher and the strange materials she is showing them.
b. English is really a 2nd language for these children, and the items on the test are not common in Navajo culture.
c. The children will only respond when an older child has shown them how to do the task.
d. It would be rude for the children to look an older person in the eyes and answer a question to which the adult knows the answer.

12. What is meant by the term anticipatory guidance? (Circle the correct response.)

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    a. Mr. Smith may be talking too quickly and not allowing sufficient pause time for the families to feel they can talk.
    b. New Mexicans believe that Easterners consider them incompetent, and, consequently, they don't want to work with them.
    c. Mr. Smith is asking questions about things that should not be shared outside the family.
    d. Many children in NM have hearing problems, and the families don't view a hearing loss as a serious problem.

14. Mark the value orientations that are characteristic of mainstream culture.

    _____ planning for the future
    _____ mastery over nature
    _____ valuing the past
    _____ value being active
    _____ family orientation to social relationships
    _____ individualism
    _____ living in harmony with nature

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    c. professionals may feel "insecure" in their interactions with parents;.
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17. As a result of demographic changes occurring in the United States:

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19. You are attempting to be very accepting of culturally/racially diverse groups. How might you best express this attitude?

a. All people are the same because they all have the same physiology and hence the same needs.
b. We have all had different experiences, so we are all different and hence we can't generalize among people.
c. We all have similarities; we all have differences; there are some behaviors, values, and beliefs we share with some people and not with others.
d. If we speak the same language, we are more alike than different and cultural differences are minimal.

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b. Vocabulary
c. Auditory Comprehension
d. Respiratory Support for Speech
e. Cognitive prerequisites for language
f. Auditory discrimination

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29. Cite 5 items on Joan's current list of characteristics that represent positive signs for sensorimotor development.